



GUIDELINES ON TERRITORIAL PLANNING IN COASTAL ZONE

Version 2

РЕКОМЕНДАЦІЇ З ПЛАНУВАННЯ ТЕРИТОРІЇ ПРИБЕРЕЖНОЇ СМУГИ МОРІВ

Друга редакція

This document was produced with the assistance of the European Union.

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Kyiv, August 2009



This project is funded by the EU
Этот проект финансируется ЕС

The Project is implemented by the international consortium of Euroconsult Mott McDonald (Netherlands), Mott McDonald Ltd. (UK) and Milieu (Belgium)

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INTRODUCTION

Activation of urbanization processes, substantial changes in socio-economic relations, intensification of anthropogenic loadings on natural systems, violation of the ecological balance on territories of the coastal zone of the Black and Azov Seas of Ukraine condition the necessity of defining a clear town-planning strategy of their development, a balanced structure of land-use, ecologically-oriented ways of territorial organization and nature management in this region.

In accordance with the Resolution of the Cabinet of Ministers of Ukraine "On adoption of the State Regional Development Strategy for the period till 2015", measures are envisaged for restructuring the economic base, modernization of the infrastructure, development of city agglomerations, tourism and recreation, including in this region. This conforms with "Guiding Principles for Sustainable Spatial Development of the European Continent (CEMAT)" (the Ministry of Regional Development of Ukraine, 2007); with the Decree of the President of Ukraine "On activities for development of tourism and resorts in Ukraine" (No.136/2007 of February, 21, 2007).

The fundamental town-planning project developed in 2006 by the Ukrainian State City Planning Research Institute "DiproMisto", "Scheme of Territorial Planning of the Coast of Black and Azov Seas for Implementation in Donetska, Zaporizka, Khersonska, Odeska, Mykolaivska Oblasts and AR Crimea" takes into account provisions of this governmental instruction, provides substantiation for directions of developing the multi-sector economic complex of this region, forecasts the number of population and the number of holiday-makers and tourists for the future, as well as introduces the planning structure of the coastal territory in view of protection, rational use and reservation of valuable lands of different destination and future prospects for development of coastal territories and cities within the system of the European Black Sea Region.

Separate issues of the ecological and town-planning nature related to development of coastal territories are regulated in Ukraine by over 15 legislative acts, including "On adoption of the National Program of Environmental Protection and Recreation of the Azov and Black Seas", "On the Nature Reserved Fund of Ukraine", "On Resorts", "On the General Territorial Planning Scheme of Ukraine", "On Territorial Planning and Land Development", "On Protection of Cultural Legacy", etc.

The Project "Environmental Collaboration for the Black Sea" financed by the European Union upon the request of the Ministry of Environmental Protection of Ukraine developed the new draft Law of Ukraine "On the Coastal Zone" as an integral object of integrated management and legal regulation of economic activity, zoning planning and development of its territory's elements.

Actuality of the legislative provision for development and protection of natural resources of the coastal zone is grounded on the following aspects:

- *Uniqueness and invariance of natural resources of the Azov-Black Sea region.* The potential of resort and recreational, tourist and natural landscape resources of the coastal zone in view with its current status is not sufficiently used – 6 times less that could be taking into account perspective opportunities. The priority role in development of this sphere both as the means of satisfying cultural needs and growth of the national and regional economy is underestimated at all levels of governmental structures.

- *The high urbanization level of the coastal zone of the region.* The percentage of town-planning development territories within the two kilometer protection coastal zone makes over 70.0%; density of population exceeds the mean indicator for Ukraine by 33%; the number of population of coastal districts and cities makes up over 6 million persons. All of this requires expansion of spatial scopes of costal settlements for their "ecological and town-planning unloading".

- *Polyfunctional economic structure of coastal settlements.* Natural landscape resources valuable for development of resorts and recreation, land resources limited for town-planning development and inevitability of strengthening of the production constituent in the system of "production-settlement-resort (recreation, tourism)" due to building of strategic industrial objects, ports, communal and warehouse objects generate conflicting problems. In this connection, coastal settlements become an object of differentiating of various functions and spatial transformation on principles of searching for a "balance of interests".

- *Ecological impacts on functioning of coastal settlements.* Coastal settlements are located in "epicenters of ecological risks and restrictions". By the level of negative impact on marine basins of the beach area, the housing and communal economy, which inflicts more than a half of all economic damages, and objects of marine transport and industrial enterprises are the greatest sources of contamination, the percentage of losses inflicted by which makes up to 40.0%. This promotes the role of ecologically-oriented planning facilities of balanced natural and anthropogenic development and creation of specialized functional districts and areas within the coastal zone.

- *Limited regulatory documents on planning of coastal territories with their specific features.* Planning aspects of coastal territories and cities are currently regulated by the State construction norms DBN 360-92** "Town-planning Planning and development of urban and rural settlements"; by the designer's reference book "Town-planning", as well as by over ten methodical recommendations of the period of 1970-90s. However, all the above-mentioned regulatory and methodical documents refer to general principles of planning of all types of settlements without taking into account specifics of natural and geographic conditions of their location; recommendations on planning of coastal territories mainly offer planning suggestions only for resort settlements, their areas and complexes, which are developed based on socio-economic principles contradictory to market ones without studying of the

polyfunctional structure of coastal settlements and taking into account special requirements of nature protection legislation.

The practice of town-planning development of coastal territories proves that today we witness an "active expansion" of valuable resort and recreational, as well as nature protection lands both for development of material production objects and for placement of cottage and summer residences building, housing multistory construction, etc. The issues related to the pattern of authorized town-planning use of territories of coast-protection areas, coastal shelter belt, resorts sanitary protection districts, sanitary and protection areas of industrial objects are not being resolved, there are no expressly defined "restrictive and authorization" directions of building activity, no regulatory suggestions on balanced polyfunctional development of coastal cities – centers of administrative, industrial, cultural and tourist destination, as well as settlement systems strongpoints have been developed.

Taking into account the research and practical elaborations developed in this sphere, it is possible to conclude that currently only general principles of forming mainly resort towns as centers of temporary settling of holiday-makers have been worked out, as well as requirements to resort and recreational construction have been regulated. At the same time, project developments and scientific researches do not embrace such urgent issues as:

a) *disproportions* in development of the functions "production-settlement-resort (recreation, tourism)"; b) *ecological violations* in the coastal shelter belt; c) *loss of land and beach resources* for development of resorts, recreation and tourism in connection with their non-targeted development; d) use of *national* natural resources of the Ukrainian part of the coast as an inalienable constituent *of the intergovernmental tourism system* of European Black Sea countries – for recurrent local needs and out of control land redistribution; e) development of coastal settlements as ordinary settlements without taking into account their special *marine economy, external economic* and *tourist* functions.

1. GENERAL PART

1.1. DEFINING THE KEY TERMS

In the Guidelines, the terms are interpreted as follows [1, 4]:

Coastal region – the territory adjoining the Black and Azov seas directly or through basins of estuaries, which has a brightly expressed affinity of the climate, orography, hydrographical network, the settlement system characteristic of it, and presence of prominent natural complexes and objects of historical and cultural legacy; embraces territories of the AR Crimea, the city of Sevastopol, Odeska, Mykolaivska, Khersonska, Zaporizka and Donetsk Oblasts and is divided into three *subregions* – the Crimean, the Black Sea and the Azov ones.

Coastal district – an administrative district adjoining the Black or Azov Seas in the composition of a coastal region.

Coastal settlement – a territorially integral compact natural habitat of concentration of population in composition of a coastal district; based on the number of population, functional significance and economic profile, coastal settlements are divided into urban (the largest, major, large, middle, small settlements and urban type villages) and rural ones (major, large, middle, small).

Coastal city – a settlement located in composition of a coastal region with a coastline, developed functional and planning structure that is related to sea economy, transporting, administrative cultural, resort recreational and tourist activity; divided into cities of republican (AR Crimea) and Oblast significance.

Coastal agglomeration – a group of the most territorially approximated settlements located along the coastline united by developed inter-settlement connections of the integrative nature.

Coastal territory – the territory of the coastal region, coastal district, coastal settlements, major cities and agglomerations comprising all lands within their territory in accordance with categories of their main target destination set by the current legislation.

Coastal zone – the contact area of dry land and the sea that passes all along the coastline and includes the dry land part with natural and anthropogenic complexes under the impact of the sea, and the adjoining marine basin that is under the impact of the coast; the dry land includes territories of coastal districts, coastal settlements, major cities and agglomerations that directly border on the coastline; the basin part includes basins of inland waters and the territorial sea.

Coast protection zone – the nature protection territory of economic activity regulated by the current legislation set along seas, round sea arms and estuaries, as well as other reservoirs; external limits of coast protection zones are defined within land use organization projects or in composition a town-planning documents.

Coastal shelter belt – the nature protection territory allocated within the coast protection zone and set along the coastline for the purpose of protecting the marine and coastal natural environment against unfavorable anthropogenic impacts, as well as includes

the dry land part and the basin part - *coastal "shelter" marine basin* with the mode of limited economic activity.

Beach area – a part of the coastal shelter belt (both on dry land and in the marine basin), the planning, sizes, borders and usage mode of which are defined in accordance with requirements of the Law of Ukraine "On resorts" and DBN 360-92** "Town-planning Planning and development of urban and rural settlements".

Territorial planning scheme (of coastlines, the coastal territory) – a town-planning document determining key solutions for planning development and other use of the respective territories of administrative and territorial units or their separate parts.

General coastal settlement plan – town-planning documents determining key solutions of development, planning, construction and other use of a settlement's territory.

Coastal region, district, coastal agglomeration, major city development concept – a constituent of the territorial planning scheme of the general plan determining strategic directions of a town-planning object's development in view of national, regional and local interests.

Regional settlement system – an intentionally formed in the conditions of a coastal region or its sub-regions and administrative regions aggregate of urban and rural settlements of different sizes and economic profile incorporated with functional, transportation, other mutual connections round the coastal central city of the system with the highest administrative status, economic and socio-cultural potential.

Ecological network of a coastal region – a territorial system of nature protection objects including areas of natural landscapes subject to special protection, and territories and objects of the nature reserve fund, resorts and medically and sanative, water shelter territories, etc. located within and beyond the limits of coastal districts and coastal settlements; a constituent of the national ecological network of Ukraine.

Coastal resort and recreation, tourist system – an aggregate of resorts, recreation areas, tourist formations, nature reserve objects located on the coast and mutually linked, linked with historical and other settlements with tourist and excursion routes, transportation and engineering communications.

Engineering and transporting infrastructure of a coastal region – territorial system of external transport constructions – railway, motor-car, air, marine, public passenger transport; water-supply networks, sewage system, power supply; coast-protecting, hydrotechnical constructions, ports, moorages, navigation safety objects and other objects, construction of which is not restricted by the current legislation.

1.2. OBJECTIVE AND TASKS OF TERRITORIAL PLANNING OF THE COASTAL ZONE

The objective of the guidelines is to offer suggestions on the terminology and concept system, principles of planning functional zoning, protection and rational use of territories (basins) of coastal zones in compliance with requirements and restrictions of the current legislation, to describe the procedure of development, coordination and adoption of the Territorial Coastal Planning Scheme, to define its structure and tentative contents.

The key tasks of territorial coastal planning are:

- comprehensive assessment of the territory (basin) of the coastline within the set project frames, state of its economic use, stores of natural resources, their biological and landscape variety, medical resources, available cultural legacy objects, current settlement system, engineering and transporting infrastructure, as well as other specific features;
- substantiation of future needs, priority directions and scales of perspective development of economic activity within the coastal zone;
- conducting scientifically substantiated functional zoning of the territory (basin) of the coastal zone, providing for means of its planning organization of balanced and non-exhaustive nature management;
- development of suggestions for distribution of lands based on their target destination, buildings and reconstruction of housing and communal economy and public servicing objects, engineering development and equipping the territory of settlements, development of the transport network, realization of nature protection, anti-erosive, anti-sliding and fire-prevention work, renewal of disturbed natural complexes, coastal protection, prevention of changes of the territory's hydrological mode;
- protection and rational use of natural medical and sanitation, recreational, historical and cultural resources, creative competitive conditions for functioning of resorts, recreation and tourism areas, providing for planning means for people's free access to the sea and guaranteeing ecological safety in the coastal zone;
- defining monitoring activities for the environmental status of the territory (basin) of the coastal zone, forecasting dynamics of possible changes, prevention of impact of unfavorable processes, preservation of natural habitats of animals and plants included into the Red Book of Ukraine, the Green Book of Ukraine, the European Red List of the species of animals and plants under the threat of disappearance at the global scale, the Red Book of the International Union for Conservation of Nature (IUCN);
- assistance of development of efficient economic activity in the coastal zone taking into account national, regional and local needs in the sectors of agriculture and forestry, fishing ports activity, shipbuilding navigation, local trades, etc. in compliance with restrictions of the current legislation;

- organizing the integrated coastal zone management system based on principles of collaboration of state, self-governing, non-government, businesses and other structures, a strategic approach to planning and implementation of all administrative and economic activities related to the coastal zone taking into account the long-term prospect.

1.3. DESCRIPTION OF THE AZOV-BLACK SEA REGION

The Azov-Black Sea region is located in the southern part of Ukraine within administrative borders of Donetsk, Zaporizka, Mykolaivska, Odeska, Khersonska Oblasts and the Autonomous Republic Crimea, the city of Sevastopol, it borders on the territories of Moldova and Romania. The territory of the region makes up 167.1 thousand sq.km. and constitutes 27.7% of the total area of the territory of Ukraine.

The population living in the territory of the Azov-Black Sea region – approx. 13.5 mln. people (29.0% all the entire population of Ukraine), is extraordinarily varied in the national composition and ethnic features; apart from Ukrainians and Russians, in separate districts there are compact settlements of Tatars, Germans, Bulgarians, Greeks and representatives of other peoples [1].

The Azov-Black Sea region comprises territories of coastal administrative districts and coastal cities that directly or indirectly (through basin estuaries) adjoin the seacoast and form *the coastline*, the total area of which is 59.2 thousand sq.km. and population – over 6 million people [2].

Based on the complex of physical and geographical, economic and town-planning signs, within the limits of the region three *subregions* are separated: the Black Sea, Azov and Crimean ones.

The total coast length of the Azov-Black Sea region makes up 2759.2 km, within that beach resources occupy approx. 1300 km of the coastline. Apart from the marine basin, there are 14 estuaries in the territory of the region with the area of 2.5 thousand sq.km.

The network of nature reserved territories of the state significance within the region comprises: biosphere preserves – 2, natural preserves – 6, national natural parks – 1, nature reserves – 35, regional landscape parks – 14, botanical gardens – 2, parks-sights of gardening and park art – 10.

On the base of medical and sanitation resources (mineral water, medical muds, brine of estuaries and lakes, sea water), the territory of the region comprises 184 urban and rural settlements attributed to resort ones [3], approx. 700 resort and sanitation, recreational and tourist facilities with the total capacity of 149.7 thousand beds.

The Azov-Black Sea region has a unique historical and cultural legacy. The state protects over 3000 real immovable sights of archaeology, history, monumental art architecture and town-planning 13 historical and cultural preserves, 66 historical cities and settlements of the urban type are included into the State register.

Socio-economic conditions of this region have their specific features [2]:

- favorable transport and geoeconomic position that attributes international value to this region as a "pan-European transportation area" of the Black sea basin or the "Eurasian transport area" of the Azov-Black Sea basin;

- tracing of routes of international transport corridors (ITCs) – the "Danube Water-Way" (ITC No.7), "Helsinki, Finland – Alexandropulos, Greece" (ITC No.9), "Baltics (Gdansk) – the Black Sea (Odesa)", the uniform transport system of BSEC countries, etc.;

- integration links in international organizations: the European region "Lower Danube", association of European regions, the working group of Danube regions, GUAM association, etc.;

- inclusion into international projects of the pan-European and Eastern European ecological networks with creation of the "Azov-Black Sea natural ecological corridor";

- the strategic significance of the region in formation of the economic complex: serves foreign trade connections, transit of oil and gas, has pre-conditions for creation of the coastal infrastructure for development of oil and gas resources of the Black Sea and Azov Sea shelf and constellates the fishing activity;

- uniqueness of natural and cultural resources for development of resorts, recreation and tourism areas, as well as objects of the nature reserve fund of the intergovernmental significance (on the borders of Ukraine, Russia and Romania);

- industrial potential, on the base of which 8 large industrial centers, 8 centers for processing of sea food, 6 types of mineral resources mining and processing complexes, 20 marine trade ports and 11 ports points have been formed;

- developed agriculture, which apart from production of grain, gardening, vegetable-growing and gourd fields, oil-bearing cultures and meat and dairy products has a key industry – viticulture and production of high-quality wines and brandies.

The network of urban settlements within the coastline of Azov-Black Sea region includes 130 settlements, among them 56 bordering on the coastal basin.

The average density of population in the coastline of the region is 104.57 people / sq.km. (the average indicator for Ukraine is 77.74 persons / sq.km.); in the Black Sea subregion it is the highest – 124.83 people / sq.km., in Azov one – 78.72 people / sq.km., in the Crimean subregion – 99.28 people / sq.km.

The degree of urbanization of the coastal zone is extraordinarily high – on average, 77.69%.

In the area of potential danger caused by various sources of the technogenic nature, more than 40% population of the region live.

The planning structure of the coastal zone of the Azov-Black Sea region in accordance with suggestions of "DniproMisto" [2] is based on 59 coastal administrative and territorial units (cities, city councils, districts) of Odeska, Mykolaivska, Khersonska, Zaporizka Oblasts, the Autonomous Republic Crimea and the city of Sevastopol. It is formed in composition of the 3 subregions – the Black Sea, Azov and Crimean one, has a developed system of urban

and rural settling, historical settlements formed, functioning resorts, resting areas and tourism centers, objects of the nature reserve fund and historical and cultural legacy, places of compact settlement of ethnic minorities; BSEC International Transporting Corridor (10-20 km from the coastline) is its spatial framework connected with regional routes of all types of transport connection, engineering networks and coastal protection constructions.

2. TERRITORIAL PLANNING OF THE COASTAL ZONE

2.1. COMPOSITION OF FUNCTIONAL ZONES

Territorial coastal zones development is regulated by the same legislative acts as development planning of other territories of the state with application of some additional requirements of the town-planning, land management, nature protection, sanitary and hygienic nature related to specific features of the coastal zone [4].

When planning coastal zones, it is envisaged to set the territorially differentiated mode of economic activity for the purpose of protection, recreation and rational targeted use of natural resources, development of settlements and other objects in view of economic, social and ecological needs of the society, natural and landscape, resort and sanitary factors in compliance with restrictions set by the legislation of Ukraine.

Within the limits of coastal zones territories, the following *functional zones* are defined:

Resort zone (resort) – territory on lands of sanitary destination having natural healing resources (mineral and thermal water, medical muds, brine of estuaries and lakes), most favorable microclimate, landscape and sanitary and hygienic conditions for treatment, medical rehabilitation, prevention of diseases and used for location and construction of sanatorium and resort objects.

Recreational zone – territory on lands of recreational destination having climatic conditions favorable for recreation of population, landscape natural or artificially created resources (forest and natural vegetation complexes, beach resources of seas, water objects of landscape, etc.) and used for location and construction of recreational objects.

Resort and recreational zone – territory having simultaneously natural medical and recreational resources and used in a complex for location and construction of sanatorium, resort and recreational objects.

Settlements zone (area of settlements) – territory of urban and rural settlements where the permanent population engaged in different sectors of economic activity lives.

Industrial and production (industrial and ports) zone – territory of placing of industrial enterprises, marine ports, special destination objects (for defense needs), communal and warehouse and productions objects for processing of agricultural products, external transport constructions, etc.

Agricultural zone – territory of placing of agricultural farmsteads, plant-growing and stock-raising enterprises, farming economies, warehouses for storage of plants protection matters, greenhouse constructions, etc.

Forestry zones – territory of placing of forestry fund land plots covered or not covered with forest vegetation, as well as non-forest lands used for forestry needs.

Nature protection zone – territory of location of objects of the nature protection fund – national natural parks, regional landscape parks, natural preserves, reserves, parks-sights of gardening and park art, etc., districts of sanitary protection of resorts, the coastal shelter belt, sea arms, estuaries, along riverbanks, round reservoirs and on islands, sanitary protection of beaches, etc.

Tourist zone – territory of location of objects of the historical and cultural destination – historical and architectural preserves, memorial parks and farmsteads, sights of architecture and town-planning, buildings of cult architecture and folk architecture, modern cultural complexes, etc., objects of the tourist infrastructure and excursion servicing, formed on territories of historical settlements, resort and recreational areas, the nature reserve fund, other natural complexes and objects having special ecological, aesthetic and historical and cultural value.

Apart from the above-mentioned basic functional zones, separately on territories of the health and sanitaon destination "*functional medical zoning*" is conducted, which envisages allocation within the coastal zone of land plots for placing of sanatorium and resort, recreational and tourist facilities (16 types according to the operating norms), as well as general cultural objects and cultural and welfare servicing, parks and beaches for rest of temporary population (organized and independent holiday-makers), resting-places for short-term stay of local population and tourists from different regions of Ukraine coming to the seaside on their individual transport vehicles.

For the whole coastal zone, in compliance with the current legislation, "*functional coast-protection zoning*" is carried out with allocation of the basin area (one sea-mile from the water edge), beach and adjacent areas (no less than 100 m wide), coastal "shelter" belt (no less than 2 km wide), as well as the coast-protection area as a whole.

Taking into account different methodical approaches to territorial coastal planning and its separate fragments, beyond its territory it is possible to organize "buffer zones" for unloading of the urbanized part of the coastline as a "belt of high tension and conflict of interests" creating the respective counterbalances of "deep functional formations" – groups of industrial and warehouse objects, gardening and summer residence land settlements, eco-tourism complexes, auto-tourism, etc.

It is recommended to carry out functional zoning territory of the coastal territory with application of land management, construction, sanitary, nature protection and other state standards and norms.

2.2. PLANNING REQUIREMENTS AND LIMITATIONS OF LAND USE WITHIN THE ZONES

Functional zoning of coastal territory is a means of regulation and targeted use of its lands taking into account legislative and regulatory requirements and situational limitations.

Resort zone. When planning the coastal zone in a resort zone, the following land plots are allocated: of sanatorium and resort facilities (healthcare facilities) – sanatoriums, sanatoriums for parents with children, children sanatoriums, sanatorium children out-of-school camps, resort hotels, balnearies and other facilities used for the purpose of treatment, medical rehabilitation and prevention of diseases, as well as providing proper living conditions, feeding and cultural and welfare services for citizens.

The planning requirements and restrictions related to use of sanitation destination lands within the limits of resort zones are set in accordance with the special mode of vicinities and zones of the sanitary (mining and sanitary) protection.

A sanitary protection vicinity is the territory of the surface of land, the external contour of which coincides with the border of the resort zone (resort). The sanitary protection vicinity is divided into three zones: first zone (strict mode zone), second zone (restrictions zone), third zone (supervision zone). Setting the limits of sanitary protection zones is carried out according to land use organization development projects.

The territory of the first zone encompasses places of mineral waters' emersion, territories in which deposits of medical muds are located, mineral lakes and estuaries, as well as the coastal part and the territory adjoining beaches no less than 100 meters wide [7].

In the conditions of coastal territories, the greatest attention is paid to organization of *beach*, *adjacent* and *basin* areas, which are nature protection territories and are simultaneously used for resting of population. In accordance with methodical recommendations [5], the territory of these areas must not be urbanized, and for technical means the following allowed:

- construction of cutwaters, dike dams and other hydrotechnical constructions;
- performance coast-protection, anti-sliding, anti-caving, anti-sink and anti-erosive work.

The law of Ukraine "On Resorts" prohibits the following in the territory of the first zone of sanitary protection including beaches:

- laying cables (including underground high-voltage cables), pipelines, other communications;
- construction of any buildings not related to operation and protection of natural medical factors;
- arranging sink sewage, drain fields, production waste sites, cemeteries;

- placement of parking lots, points of their servicing (repair, washing, etc.).

Development of the territory of the first zone is limited by regulatory requirements; new construction, reconstruction, restoration, major repairs and organization of town-planning objects are carried out only in accordance with the legislation, state standards and norms, adopted town-planning documents.

The list of objects construction of which does not contribute into deterioration of properties of natural resources and provides for the necessary quality of services for holiday-makers, as well as functional zoning of the adjacent, beach and basin areas is provided in table 1 [5].

Table 1. Nomenclature of objects and functional zoning of the adjacent, beach and basin areas

Objects	Sectors	Space of the sector, % of the total area space
Adjacent area:		
Green planting of general use (boulevards, public gardens, equipped embankments, etc.).	Administrative and economic	3-5
Enterprises of seasonal mobile retail trade servicing of a limited assortment (soft drinks, fruit, ice-cream, etc.).	Rescue and medical	1-2
Boatels, boatocamps, climate treatment pavilions.	Servicing	20-25
Sports and children playgrounds.	Sports 7-15	
Buildings: - administrative and communication means; - rescue and medical services; - storage of beach inventory; - rest rooms and showers.	Rest	50-70
Beach area:		
Equipment for sun-protection and for sun bathing procedures (sun-shades, deck-chairs, light dismantlable constructions for tents, etc.). Waters attractions, swimming pools. Moorages for water transport means (hydro-cycles and water skies, rowing boats).	Solarium, aeraria	40-60
	Servicing	8-10
	Children	5-7
	Sports	8-10
	Rest	20-25
Basin area:		
Constructions: - slipways, moorages for small size sea vessels (cutters, motor boats); - stands of yachts (marines); yacht-clubs, water sports and tourism complexes (on the spot water surface, on the coastline); - floating hotels, aquarium restaurants, restaurants, on the sea surface (provided observance of sanitary and hygienic terms of use of the sea basin); - aquatels, flotels, floto camps.	Bathing	75-90
	Children	3-5
	Sports	5-10
	Fishing	3-5

When organizing beach areas in the coastal zone, sizes of their territories are defined by the following indicators [5]: beaches for adults must have no less than 5 sq.m. per one

visitor, for children – 4 sq.m., medical beaches – 8 sq.m. at observance in all cases of the length of the coastline no less than 0.2 m. per visitor.

Within the limits of the 100-meter protection belt on territories adjoining beaches the adjacent area is formed based on the norm of 20 sq.m. per visitor, and on the sea surface adjoining beaches – the basin area for bathing based on the norm 5 sq.m. per person bathing.

Territory of the second zone of sanitary protection encompasses places of forming of natural medical resources of balneary resorts, sanatorium and resort facilities plots, rest and tourism facilities, micro-quarters of residential apartment houses and farmstead buildings, as well as parks, forest-parks, forests, elements of the natural landscape, which substantially contribute into improvement of the ecological and sanitary and hygienic status of the resort.

When planning the coastline zone, in this area the following is allowed:

- placing of technological objects related to exploitation of natural medical factors and not causing contamination of the atmosphere, soil and water, exceeding of normative sound-levels and the electromagnetic field tension;
- construction of new, expansion and reconstruction of available sanatorium and resort facilities, objects of general resort servicing, rest and tourism facilities, modern engineer and technical infrastructure;
- placement of housing apartment, farmstead and public buildings for the permanent population of the resort (attendant personnel, transport workers, builders, etc.), bifunctional habitation for joint residence of local population and holiday-makers;
- building of communal economy, transport objects, repairs and construction organizations, agro-industrial complexes specialized in resort maintenance;
- reconstruction of capital housing and public buildings for the needs of general resort and tourist servicing subject to the condition of providing for sanitary and hygienic conditions of their operation.

At the same time, there are certain restrictions in relation to use of this area's territories, in particular, the following forbidden: placing new and expansion of operating industrial enterprises that are potential sources of contamination of the natural environment; arranging of dumps, cemeteries, industrial waste site, underground drain fields, storages of pesticides and mineral fertilizers; realization of industrial cutting-down of planting non-targeted use of land plots and reservoirs; developing this area without creation of proper water-supply and sewage systems for the construction objects.

In the territory of the third zone, the external borders of which coincide with the border of the sanitary protection vicinity and the resort area, and which encompasses forest plantations, the territory of existing settlements, industrial and production, communal and warehouse areas, as well as the territory of other economic use, it is allowed to conduct those

types of construction that do not negatively influence natural medical factors, do not deteriorate landscape and climatic, ecological and sanitary hygienic conditions.

Recreation zone. When planning the territory of the coastal zone in the recreation area, land plots of sanitation, resting, tourism and sports facilities are allocated – preventive clinics, rest houses and camps, resort hotels, youth and children health camps, tourist camps, tourist hotels, motels, campsites, objects of physical culture and sports, houses of fishermen and hunters, other similar objects, as well as territories of green belts and green planting of cities and other settlements (forest-parks, parks, boulevards, planting of housing and public buildings areas), landscape tourist routes (educational and ecological paths, marked routes), plots of land allocated for summer cottages construction and construction of other fixed recreation objects.

The planning requirements and restrictions for development of various recreation lands within the limits of coastal recreation zones are set in accordance with their targeted destination use, mode of their protection as constituents of the ecological network, and the tasks of reducing the anthropogenic impact on such lands.

On the territory of a recreation zone, in accordance with the current legislation, the following is allowed:

- construction of new, expansion and reconstruction of available health facilities, rest, tourism and sport facilities, objects of recreational servicing and other similar objects within fixed recreation zones;
- placing of summer cottages construction and gardens on the plots of land provided for these purposes;
- creation of forest-parks, parks, other planted complexes, equipping coastlines of water objects, organization of landscape tourist routes, etc;
- implementation of restoration work on lands with disturbed native natural complexes as a result of the anthropogenic impact.

At the same time, in the territory of a recreation zone change of the natural landscape and its aesthetical qualities; disturbance of the ground and planting cover, hydrological mode during realization of town-planning activity; cutting-down of forest of primary use, industrial fishing and hunting animals; construction of buildings, ways, linear and other transport objects and connection not related to recreational activity are forbidden.

The planning requirements mentioned also refer to *resort and recreation zones* in view of the specific gravity of particular functions.

When planning *coastal urban settlements*, a system of planted territories is created, which belong to lands of recreational destination and a complex green belt of the city, which includes city and out-of-city parks (multifunction and specialized), resting centers and areas, zoological and botanical gardens, public gardens and boulevards, planted areas in the territory

of housing and public constructions, etc. In *coastal rural settlement*, planted territories are envisaged belonging to recreational lands – rural parks, planted plots next to servicing facilities, landscape and recreational territories beyond the borders of the village (forests, meadows, etc.).

Planning organization of all the above-mentioned recreational territories must be carried out on the basis of approved town-planning documents and land management documents.

Tourist zone. When planning the territory of the coastal zone in the tourist area, land plots of excursion objects of historical and cultural significance (sights of history and architecture, museums, theaters and circuses, historical and architectural reserves, etc.), tourist facilities and their complexes, centers of tourist services, sights of gardening and park art, specialized parks – dendrological, zoological, botanical gardens, etc. – are allocated.

A tourist zone may be a territorially integral formation or a spatial tourist system of the respective objects.

Within the limits of a tourist zone, *tourist centers* are allocated – historical settlements and resorts, as well as *tourist complexes* for resting and sports with the necessary facilities and enterprises for servicing tourists.

Functional zoning of the tourist zone (or the tourist system) envisages allocation of the following elements [5]:

- *zonal* – the territory of tourist resources, excursion habitats, natural reserve objects;
- *local* – historical settlements-tourist centers, tourist complexes, centers of servicing;
- *linear* – landscape and route corridors along the coastal zone, round estuaries, which coincide with transport communications and the pedestrian roads and paths network.

For determination of general limits of the tourist zone territory, the indicator of tourist loading of 1 person / ha in the area of excursion objects is used.

Functional and planning elements of the tourist zone in many cases are common for resort and recreational areas – parks, beaches, culture and sports facilities, trade and public catering facilities, which must be taken into account when forming complex "tourist and recreational" or "resort and tourist" zones.

Nature protection zone. When planning the coastal zone, land plots of objects of the natural reserve fund are funded – natural preserves, biosphere preserves, national natural parks, regional landscape parks, reserves, sights of nature, protected natural boundaries, as well as artificially created objects – botanical gardens, dendrological parks, zoological parks, parks-sights of gardening and park art.

Territories of other nature protection setting destination are also allocated, including: land plots of wetlands not included into lands of the forest and water funds, land plots within

which natural there are natural that have a special scientific value; areas of sanitary protection of resorts and sources of water-supply, etc. When implementing planning solutions, borders of these lands are marked on sight with boundary or information signs.

Planning requirements and restrictions related to use of territories and objects of the nature reserve fund within the coastal zone must meet their main targeted destination, tasks and the mode of their protection and use types, which are regulated by the Law of Ukraine "On the nature reserve fund" [8].

In compliance with provisions of this law, the on territory of the nature reserve fund within the limits of the nature protection zone, the following is allowed:

- construction of buildings necessary for tasks performance of nature protection object;
- performance of restoration work on lands with disturbed native complexes;
- realization of sanitary cutting-out, reconstruction cutting and care of green planting fire-prevention and other sanitary facilities;
- placing of hotels, motels, campsites, servicing objects of areas of fixed recreation;
- equipping of tourist routes and ecological paths in the areas of managed recreation.

In the territory of the nature reserve fund, the following things are forbidden: any town-planning activity that negatively influences or can influence the status of the natural and historical and cultural complexes and objects; construction of buildings, ways, linear and other transport and connection objects not related to activity of the nature reserve object; violation of project requirements for creation and organization of territories of the nature reserve fund; realization of economic activity without preliminary ecological expertise or contrary to its conclusions; arbitrary change of limits and allocation of nature protection territories for other needs.

When planning the territory of the coastal zone, the above-mentioned requirements and restrictions are mainly related to use of land plots of *extensively developed* functional areas, which provide for an ecological balance in the region and in view of *agricultural, forestry* and *water funds* lands, use of which is regulated by the land, forest and water codes.

Speaking about *intensively developed* functional areas – *settlement one*, including lands of housing and public construction, *production and industrial* and *industrial and ports areas*, including lands of industry, transport, connection, energy, defense and other destination, planning requirements and restrictions for them are regulated by DBN 360-92** [6].

Scientific studies conducted in the period of 2008-2009 [9] discovered that the correlation of urbanized and nature protection territories in the conditions of the coastal zone must be 1:2 - 1:4, which provides for balanced development.

Average indicators of balanced proportional correlation of territories of different functional areas of coastal territories are indicated in table 2.

Table 2. Differentiated indicators of the need of coastal territories for town-planning development and nature protection

Functional zones and their elements	Estimated indicators for balanced development of coastal territories			
	based on an industrial and production, posts complex		based on a resort and recreational, tourist complex	
	ha per 1000 persons	%	ha per 1000 persons	%
Town-planning territories:				
- settlement (incl. public)	30.0	40.0	40.0	40.0
- production (incl. communal)	20.0	27.0	15.0	15.0
- resort and recreational	10.0	13.0	20.0	20.0
- planted (general use)	15.0	20.0	25.0	25.0
Subtotal	75.0	100.0	100.0	100.0
Nature protection territories:				
- forests, forest-parks, sanitary protection areas	140	70.0	150	75.0
- out-of-city resting areas	50	25.0	30	15.0
- nature reserve objects	10	5.0	20	10.0
Subtotal	200	100.0	200	100.0
Total	275		300	

Integral values of balanced coastal territories development indicators make up (ha) per 1000 persons: town-planning territories – 75-100, nature protection – 200, total territories – 275-300.

These estimated indicators are "frames", they reflect the necessary proportions of functional distribution of the territory and make it possible to operatively define parameters of the different constituents within the coastal territory at the concept level.

2.3. DEFINING THE TERRITORIES FOR REALIZATION OF STATE AND PUBLIC INTERESTS

When developing the Territorial Coastal Planning Scheme, it is necessary to take into account state interests in defining the need for territories for location and maintenance of objects of national significance and resolution of other tasks for implementation of public policy related to use of the coastal territory and basin.

Accounting of state interests is carried out by implementation of the respective requirements when developing the Territorial Coastal Zone Planning Concept, coastal agglomerations and major coastal cities, which are defined by specifically authorized executive bodies.

For the city of Sevastopol requirements for accounting of state interests in the process of development of its general plan and other town-planning documents are defined by the specifically authorized central executive body for town-planning and architecture at participation of other specifically authorized central executive bodies.

When planning development of the coastal zone, it is also necessary to determine territories of common interests of territorial communities necessary for placement and maintenance of housing and communal objects, social, engineering and transport infrastructure, civil and resort and recreational construction objects, resolution of other tasks of providing for sustainable development of settlements and taking into account private interests of legal entities and individuals related to acquisition as property of use of land plots, protection of their property rights, as well as safe functioning of real estate objects [10].

At the local level, accounting of public and private needs related to territories of common interests is carried out by submission and discussion of the respective suggestions by citizens and social associations. On their part, executive bodies inform the population about legal, economic and ecological consequences of territory planning as well as about the procedure of accounting for legal interests and requirements of owners or users of land plots, constructions and buildings in common interests territories.

In order to take into account public and private interests, executive bodies of village, settlement, city councils, Sevastopol city state administration within the limits of its authority based on town-planning documents of different levels set the mode of use of lands of different target destination, including those allocated for state and public town-planning needs, which consists in observance of the set planning requirements and restrictions for use of territories intended for placing of housing and communal objects, engineering and transport, social infrastructure, civil and resort and recreational construction envisaged by the respective town-planning documents, as well as carry out control over development and protection of the environment in the coastal shelter belt.

Planning of common interests territories is carried out in accordance with requirements of the territorial community in territories necessary for location, maintenance of housing and communal objects, social engineering and transport infrastructure, civil and resort and recreational construction, solution of other tasks of providing for sustainable development of coastal territories.

For satisfaction of state and social needs related to determination of territories for development of the engineering and transporting infrastructure, roads, bridges, transport corridors in accordance with adopted town-planning documents – territory planning schemes, general plans, local councils set town-planning conditions and restrictions for use of land plots in the indicated territories. Information about the limits of lands necessary for satisfaction of state and social needs, as well as town-planning conditions and restrictions of their use, is represented in the state land cadastre and town-planning cadastre [10].

Withdrawal of lands for social needs and compensation of the losses is carried out in accordance with the Land Code of Ukraine and the Civil Code of Ukraine.

3. DEVELOPMENT, COORDINATION AND APPROVAL OF THE COASTAL ZONE TERRITORIAL PLANNING SCHEME

3.1. PROCEDURE OF DEVELOPING THE TERRITORIAL PLANNING SCHEME

The decision on development of the general territorial coastal planning scheme or one for the respective area is made by the district council, oblast council (city council of the city of Sevastopol), Verhovna Rada of the AR Crimea, Verhovna Rada of Ukraine. Organization of drafting, coordination and adoption of the Scheme is carried out by the respective state administration, which determines the customer and developer of the Scheme, sets deadlines for the work's completion and funding sources, delegates to the customer to enter into the agreement with the developer.

The basis for development of the Territorial Coastal Planning Scheme on a concrete area is the terms of reference coordinated by the customer with proper oblast (republican of the AR Crimea, of the city of Sevastopol) bodies for land resources, nature protection and sanitary and epidemiological bodies, bodies for architecture and protection of cultural legacy.

The respective state administration, as the project organizer, informs local self-government bodies of adjoining administrative and territorial units about the intentions of developing the Scheme and sends to them the terms of reference for consideration, published in mass media a notification about starting of the Scheme's development.

The Territorial Coastal Planning Scheme on a concrete area is developed in accordance with the framework Table of Contents attached in annex 4.1 and must meet requirements of legislation, state norms, requirements to comprehensiveness and deadlines. The Scheme is drafted in the hard and electronic forms, stored in the archive of the project developer, sent to the customer and the proper state administration departments.

The Territorial Coastal Planning Scheme developed is subject to coordination with the proper (oblast, district, etc.) bodies for land resources, nature protections and sanitary and epidemiological bodies, bodies of architecture and protection of cultural legacy, as well as state expertise depending on priorities of economic development – expertise of land management documents, ecological expertise or town-planning expertise. After passing of state expertise, the Territorial Coastal Planning Scheme is offered for public discussion in the form of open discussion, organization of which is carried out by the oblast (Sevastopol city) state administration, the AR Crimea Council of Ministers [11].

At the final stage, discussion and adoption of the Scheme are carried out at a session of the proper (oblast, district, city) council, to which representatives of interested central and local executive bodies, other public bodies, scientific institutions, social organizations are invited. After adoption, the Scheme is subject to publication according to the procedure set for publication of acts of the body that adopted the project, as well as on the Internet site of this body. The proper state administrations provide all stakeholders with unimpeded access to the adopted document and the possibility to obtain notarized copies and extracts from the project

documents, unless that conflicts with provisions of the current legislation on information constituting the state secret of Ukraine, as well as regulatory requirements on cartographic and topographical survey materials and data.

Amending of the adopted project documents is carried out in the case of the need of correcting:

a) routes of main transport and engineering networks in connection with appearance of new state or regional interests;

b) borders of functional areas in connection with announcement of new resorts, nature protection objects, etc.;

c) borders of restriction areas (sanitary and protection, nature protections ones, etc.) related to changes in production technologies, closing of dumping sites, cemeteries, etc.;

d) other project solutions, if they do not violate conceptual provisions of the Territorial Coastal Planning Scheme.

The terms of reference for amendment and correction of the Scheme are coordinated only with those local self-government bodies and stakeholders the sphere of whose interests includes the amended project solutions. Amendments in the Scheme are made with a resolution of the Council that approved the town-planning documents.

The key document – the Territorial Coastal Planning Scheme – is developed in the form of textual and graphic (cartographic) materials and is intended for the period of 20.

Textual materials include: the rationale containing analysis of the modern status, substantiation and suggestions for perspective use of the project coastal zone area with the necessary calculations, tables, illustrations, annexes.

Graphic materials include: the situational scheme, the plan of the current use of the territory (basic plan), the scheme of planning restrictions and the project plan (key blue-print); performed in the scale of 1:25000 (situational plan - 1:100000) on the basis of topographical maps of the respective scale, which must not contain specialized information indicated in the List of data constituting the state secret of Ukraine pursuant to the current legislation.

Graphic materials in the composition of the Territorial Coastal Planning Scheme are developed using geo-information systems (GIS technologies). The document developer can represent additional graphic materials that ground, illustrate or detail the planning decisions made in any scale [11].

3.2. PLAN FOR IMPLEMENTATION OF THE TERRITORIAL PLANNING SCHEME

Implementation of the Territorial Coastal Planning Scheme and its separate parts – coastal subregion, oblast, coastal administrative district, coastal agglomeration – is carried out on the basis of the *scheme implementation plan*, which is adopted by the respective council within three months after adoption of the territory planning scheme on a concrete site.

In the implementation plan of the Territorial Coastal Planning Scheme, its separate parts, the following is contained [10]:

- decisions about drafting the land use design of the coastal territory or amending of the operating land use design for this territory;
- deadlines for drafting documents on allocation of land plots for placing of constructions and buildings of the engineering and transport infrastructure, nature protection objects and resorts, other territories for satisfaction of public and social interests;
- financial and economic substantiation for implementation of the Territorial Coastal Planning Scheme, its separate parts.

The structure and procedure of monitoring over implementation of the Scheme are defined by the executive body for town-planning and architecture.

In the event of changes of socio-economic factors used as the basis of the territory planning scheme of the coastal zone, in the case of the urgent need of placement of specific strategic objects of the national or regional significance, changes in the concept of the oblast's or the administrative district's development or adoption of new governmental programs or tasks in the part related to this territory, the respective councils provide for amending and supplementing the operating territory planning scheme or make the decision on development of a new planning scheme.

4. ANNEXES

4.1. TABLE OF CONTENTS OF THE COASTAL ZONE TERRITORIAL PLANNING SCHEME

INTRODUCTION

(the primary objective, grounds and legislative framework, main tasks of the scheme's development, a list and sources of primary data)

1. DESCRIPTION OF GEOGRAPHICAL LOCATION OF THE OBJECT, NATURAL CONDITIONS AND THE CURRENT STATUS

1.1. Location and territorial limits of the coastal zone area *(short historical notice, administrative and territorial structure, information about the area and number of populations, territorial limits and surroundings, etc.)*

1.2. Natural conditions and resources *(geology, geomorphology, climate, hydrography, soils, flora and fauna, animality, landscape diversity, etc.)*

1.3. Current status of the territory's use *(analysis of development trends, functional use of lands, current territory balance, etc.)*

2. SOCIO-ECONOMIC INDICATORS OF THE COASTAL ZONE DEVELOPMENT

2.1. Population and the settlement system *(information about settlements, composition of population, information about its employment, etc.)*

2.2. Industrial and ports sector *(structure of the industrial and production sphere, marine economy complex, ports constructions, the impact of industry on the environment, etc.)*

2.3. Agriculture, forestry and water sector *(specific features of agriculture, forestry fund lands, hunting, landscape water objects, fishing, etc.)*

2.4. Engineering and transport infrastructure *(transport, connection ways, transport maintenance system development status, development of the communication network, engineering power-supply networks, water-supply and sewage, etc.)*

3. POTENTIAL OF RESORT AND HEALTH, RECREATIONAL AND TOURIST RESOURCES

3.1. Natural medical resources and resorts *(deposits of mineral and thermal water, medical muds, brine of estuaries and lakes, resorts, sanatorium and resort facilities, the natural resource potential, etc.)*

3.2. Recreational resources and resting zones *(climatic and landscape resources – forest and natural vegetation complexes, prevention and medical objects, water landscape objects, beach resources of seas and estuaries, the resting area, etc.)*

3.3. Tourist resources and objects of tourism *(sights of cultural legacy, gardening and park*

art, ethnographic features, types of tourism, assessment of tourist opportunities, etc.)

4. CHARACTERISTICS OF THE CURRENT ENVIRONMENTAL STATUS

4.1. Ecological status of the coastal zone *(indicators of anthropogenic transformation of landscapes, efficiency of environmental monitoring, ecological network, etc.)*

4.2. Sanitary and hygienic conditions of the territory *(sanitary and protective zones, areas of sanitary protection of resorts, beaches, marine basin, water-supply sources, sanitary cleaning of the territory, etc.)*

4.3. Technogenic security level of the territory *(the list of hazardous objects, sources of origin of extraordinary situations, the area of the possible risk of affecting the population, etc.)*

5. PLANNING OF THE COASTAL ZONE TERRITORY

5.1. Forecast indicators of economic activity development *(parameters of development of industry, the resort and recreational, sea management complex, number of population, needs for territories of different functional destination, etc.)*

5.2. Functional zoning of the territory *(division of the territory by types and modes of the major targeted use, determination of borders and parameters of the territory of different zones, etc.)*

5.3. Planning the territory of the coastal zone *(medical and coast protection zoning of the territory, the network of settlements, system of resorts, resting and tourism areas, nature reserve objects, objects of historical and cultural legacy and tourist routes, etc.)*

5.4. Suggestions for improvement of the engineering and transport infrastructure *(transport network, engineering equipment and activities for protection of the coastal zone, settlements, ports, etc.)*

6. ORGANIZATION OF INTEGRATED COASTLINE MANAGEMENT

6.1. Creation of Coordination Councils at local self-government bodies and public authorities *(determination of the structure, individual composition, functions, responsibility of these councils, realization of control over implementation of the project for coastline development, etc.)*

6.2. Suggestions for forming of the coastline cadastre system *(program for creation of an automated monitoring IT system for land, water, forest, resort and health, other resources, establishment of certification of attribution of land plots, their use, status of their development, ecological situation, etc.)*

6.3. Activities for realization of monitoring of the Coastline Scheme *(distribution of control functions for implementation of the project's solutions, determination of accountable parties, establishment of reporting forms and deadlines for implementation of the project's solutions, etc.)*

7. KEY TECHNICAL AND ECONOMIC INDICATORS

8. CONCLUSIONS (*key provisions*)

9. ANNEXES (*terminology, tasks, list of literature used, other official acts*)

4.2. KEY TECHNICAL AND ECONOMIC INDICATIONS OF THE SCHEME

Indicators	Unit	Baseline year	Calculation period
1. Territory space, incl.:	ha		
- housing and public construction	ha / %		
- production and industrial construction	"-		
- recreational	"-		
- sanitation			
- historical and cultural	"-		
- nature reserve fund and other aspects of nature protection	"-		
- agricultural	"-		
- forestry	"-		
- water fund	"-		
- other types of lands	"-		
2. Number of settlements, including:	unit		
- cities	"-		
- towns	"-		
- villages	"-		
3. Population, including:	thousand people		
- urban	"-		
- rural	"-		
4. Density of population	persons / ha		
5. Water consumption	thousand sq.m. / day		
6. Sewage	"-		
7. Gas consumption	thousand m ³ / year		
8. Electric power consumption	thousand kW		
9. Length of the railway network	km		
10. Length of motor-car roads	kn		

11. Density of the transport network:			
- railway	km /100 sq.km.		
- motor-car	-"-		

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