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## Water Territories: Urban Planning Term and Concept

*Abstract:* The current paradigm shift in the perception of natural water bodies has intensified the need to adapt urban planning and landscape design to the realities of climate change, sea-level rise, extreme precipitation, and recurrent flooding. At the same time, the continuing concentration of population and infrastructure in coastal zones requires not only new technical and environmental solutions, but also a clearer conceptual and terminological framework for planning spaces situated at the interface between land and water. The article addresses this problem by analysing, comparing, and systematising terms related to the aquatic environment as used in national legislation, international maritime law, geographical and hydrological sciences, urban planning regulations, and architectural and landscape studies. The research applies a qualitative conceptual and terminological methodology based on documentary analysis, comparative interpretation, systematisation, and inductive-deductive generalisation. The study demonstrates that existing terms such as “territorial waters”, “internal waters”, “water fund lands”, “coastal waters”, “aquatorium”, “water protection zone”, and “coastal protection strip” describe legal, geographical, hydrological, or environmental phenomena, but do not adequately define water spaces as independent objects of urban planning and architectural-landscape design. In response to this conceptual gap, the article proposes the term “water territories” as an urban planning concept. Water territories are defined as territories covered by the waters of natural water bodies and including the water surface, the water column, and the submerged part of the shore, considered as objects of planning, design, development, and environmental regulation. The article identifies their components, boundaries, and main types: lake, river, marine, and oceanic water territories. The proposed concept provides a theoretical basis for integrating water spaces into contemporary urban planning practice, particularly in relation to coastal adaptation, floating architecture, artificial islands, recreational water zones, ecological infrastructure, and future models of human habitation in aquatic environments.

*Keywords:* water territories (or areas), lake, river, and marine water areas, the boundaries of water territories.

## Introduction

The beginning of the twenty-first century has been marked by a significant transformation in the perception of natural water bodies within urban planning, landscape architecture, and environmental design. Water is no longer considered only as a natural boundary, a resource, or an element of visual and recreational value. In contemporary planning practice, it increasingly becomes a spatial, functional, ecological, and infrastructural component of the urban environment. This shift is closely connected with climate change, sea-level rise, the increasing frequency of extreme weather events, heavy rainfall, coastal erosion, and flooding, all of which directly affect areas of human habitation located in the immediate vicinity of seas, rivers, lakes, and other natural water bodies.

The relevance of this problem is intensified by the persistent global tendency towards population concentration in coastal zones. The demographic attractiveness of coastal territories, which became especially visible in the second half of the twentieth century, continues in the present day. According to the publicly available dataset analysed by Cosby et al. (2024), more than 2 billion people, or approximately 29% of the global population, lived within 50 kilometres of the shoreline in 2018, while more than 1 billion people, or around 15% of the global population, lived within 10 kilometres of the water. Thus, a considerable part of the world's population is already located in zones where urban development is directly influenced by the dynamics of natural water bodies.

The concentration of population, infrastructure, transport systems, recreational facilities, and economic activity in coastal areas creates a complex planning situation. On the one hand, coasts remain highly attractive for settlement, tourism, public space development, and economic activity. On the other hand, these territories are increasingly exposed to environmental risks associated with flooding, storm surges, erosion, hydrological instability, and ecological degradation. Consequently, the traditional planning model based primarily on the separation of land and water is no longer sufficient. Contemporary urban planning requires a more integrated approach in which coastal areas and adjacent water spaces are considered as interconnected components of a single spatial and ecological system.

The problem addressed in this article lies in the fact that the terminological apparatus currently used in legislation, hydrology, geography, environmental protection, and urban planning does not provide a sufficiently clear definition of water spaces as objects of architectural, landscape, and urban planning activity. Existing concepts such as “territorial waters”, “internal waters”, “water fund lands”, “coastal waters”, “water protection zones”, “coastal protection strips”, and “aquatic landscapes” are important within their respective disciplinary contexts. However, they do not fully describe the planning nature of water spaces that may be designed, functionally organised, protected, regulated, and developed either independently or together with adjacent coastal areas.

The research problem is therefore not only environmental or technical, but also conceptual. In order to develop contemporary methods for the architectural and landscape organisation of water spaces, it is necessary first to clarify the terminology that defines these spaces as planning objects. Without such clarification, urban planning practice remains dependent on fragmented terms borrowed from legal, hydrological, geographical, and environmental discourse, while the water surface, water column, submerged shore, and related spatial elements remain insufficiently articulated in planning theory.

The scientific novelty of this study consists in substantiating the concept of “water territories” as a new urban planning and architectural-landscape term. Unlike legal or hydrological terms, the

proposed concept is intended to describe natural water spaces not only as physical or ecological phenomena, but also as spatial objects that may be included in planning documentation, design strategies, landscape organisation, functional zoning, environmental protection, and future urban development scenarios. The article defines the main components of water territories, identifies their boundaries, and proposes their classification according to the type of natural water body.

The object of the study is the system of natural water bodies and adjacent coastal spaces considered in the context of urban planning, architectural design, and landscape organisation. The subject of the research is the conceptual and terminological framework used to define water spaces as potential objects of urban planning and architectural-landscape design.

The study aims to substantiate the concept of “water territories” as an urban planning term and to define its meaning, components, boundaries, and typological characteristics within the contemporary theory and practice of coastal and water-area planning.

To achieve this aim, the study addresses the following research objectives:

- to analyse existing terms related to the aquatic environment in national legislation, international maritime law, geographical and hydrological sciences, urban planning regulations, and scientific literature;
- to compare the meanings and disciplinary functions of these terms in order to identify their conceptual limitations for urban planning;
- to systematise the selected terms according to their legal, geographical, hydrological, environmental, and planning contexts;
- to identify the conceptual gap between existing terminology and the practical need to plan and design water spaces;
- to formulate the definition of “water territories” as a new object of urban planning and architectural-landscape design;
- to define the components, boundaries, and main types of water territories;
- to demonstrate the theoretical and practical significance of this concept for contemporary planning practice.

The theoretical significance of the study lies in the development of the conceptual apparatus of urban planning and landscape architecture in relation to water spaces. The proposed term “water territories” enables a more precise description of aquatic spaces as spatial-planning objects and contributes to the interdisciplinary integration of urban planning, hydrology, geography, environmental law, maritime regulation, and architectural-landscape design.

The practical significance of the research lies in the possibility of applying the proposed concept in planning documentation, coastal development strategies, landscape design projects, water-based recreational planning, climate adaptation measures, floating architecture, artificial island projects, ecological infrastructure, and the regulation of future forms of settlement and construction in water environments. The concept may also be useful for developing planning principles for areas where coastal territories and water bodies form a single functional and ecological system.

## Methods

This study is based on a qualitative conceptual and terminological research design. The methodological approach was selected because the central objective of the article is not to measure a physical phenomenon or test an engineering solution, but to clarify, compare, and theoretically substantiate a planning concept that is currently insufficiently defined in urban planning discourse. The research therefore combines documentary analysis, comparative terminology, conceptual analysis, systematisation, and inductive-deductive generalisation.

The empirical and documentary basis of the study includes several groups of sources. The first group comprises national legislative acts regulating water bodies, water fund lands, coastal protection zones, and state territory, including the Water Code of Ukraine, the Land Code of Ukraine, and the Law of Ukraine On the State Border of Ukraine. The second group consists of international legal documents and conventions, particularly the United Nations Convention on the Law of the Sea and the Convention on the Territorial Sea and the Contiguous Zone. The third group includes European regulatory documents, including Directive 2000/60/EC, which provides important definitions concerning coastal waters and water policy. The fourth group comprises geographical, hydrological, and encyclopaedic sources that define aquatic landscapes, water surfaces, water columns, water areas, and related hydrological concepts. The fifth group consists of urban planning regulations and scientific works in architecture, landscape architecture, urban planning, geography, and legal studies that address coastal zones, coastal strips, water protection areas, aquatic zones, and the planning organisation of coastal and water-related spaces.

The selection of sources was guided by three criteria: relevance to water-related terminology; authority within the respective disciplinary or regulatory field; and relevance to urban planning, architectural, landscape, legal, geographical, or hydrological interpretation of water spaces. Particular attention was given to sources in which water bodies or adjacent areas are treated as objects of regulation, classification, protection, planning, design, or functional organisation.

The research procedure consisted of several consecutive stages. At the first stage, terms related to natural water bodies, coastal zones, aquatic landscapes, water areas, territorial waters, water fund lands, and water protection zones were collected from the selected sources. At the second stage, these terms were grouped according to their disciplinary origin: national legislation, international maritime law, geographical and hydrological sciences, urban planning legislation, and scientific works in urban planning and landscape architecture. At the third stage, the semantic content of the terms was analysed in order to determine whether they describe water spaces as legal, geographical, hydrological, ecological, recreational, or planning objects. At the fourth stage, the identified terms were compared with the practical needs of contemporary urban planning and architectural-landscape design, especially in relation to coastal development, floating architecture, artificial islands, recreational water zones, and climate adaptation. At the fifth stage, the conceptual gap was identified: existing terminology describes water spaces from several disciplinary perspectives, but does not sufficiently define them as independent or integrated objects of urban planning. At the final stage, the concept of “water territories” was formulated and theoretically substantiated.

The study applies the method of analysis and synthesis to examine individual terms and then integrate the findings into a coherent conceptual framework. The comparative method is used to identify similarities and differences between legal, hydrological, geographical, and urban planning interpretations of water-related spaces. The method of systematisation is applied to organise the

selected terms into meaningful groups and to establish their relation to the proposed concept. The method of abstraction is used to move from specific definitions and regulatory formulations to a more general urban planning concept. The method of concretisation is then applied to define the components, boundaries, and types of water territories. Inductive reasoning allows the study to derive the need for a new concept from the analysis of existing terms and practices, while deductive reasoning is used to test the applicability of the proposed concept to different types of natural water bodies, including lakes, rivers, seas, and oceans.

The validity of the proposed conceptual framework is supported by interdisciplinary triangulation. The article compares terms and definitions from legal, geographical, hydrological, environmental, and urban planning sources rather than relying on a single disciplinary tradition. This approach makes it possible to distinguish between terms that define water spaces as objects of sovereignty, environmental protection, geographical classification, or recreational use, and the proposed term “water territories”, which is intended to define them as objects of planning and architectural-landscape organisation.

The study has several limitations. It does not include field measurements, hydrodynamic modelling, GIS-based spatial analysis, or empirical case-study evaluation of specific coastal projects. Its purpose is conceptual and terminological rather than technical or quantitative. However, the proposed framework may serve as a methodological basis for subsequent applied research, including spatial modelling, comparative case studies, design guidelines, environmental assessment, and the development of planning regulations for coastal and water territories.

### **Literature Review**

The terminology associated with water bodies and aquatic environments has been developed within several disciplinary fields, including hydrology, geography, environmental law, maritime law, urban planning, and landscape architecture. However, these fields use different conceptual frameworks and often assign different meanings to similar terms. This creates difficulties for urban planning theory and practice, particularly when water spaces are considered not only as natural or legal objects, but also as potential spaces for design, functional organisation, development, and adaptation to climate change.

In hydrological and geographical literature, basic terms relating to land hydrology and water resources are presented in encyclopaedias, conceptual and terminological dictionaries, textbooks, standards, and scientific publications. Such sources include the Encyclopedia of Hydrology and Water Resources (1998), the Geographical Encyclopedia of Ukraine (1993), the conceptual and terminological dictionary by Alaev (1983), the hydrological works of Chebotarev (1960; 1978), the State Standards of Ukraine DSTU 3517-97 Land Hydrology (1997), and scientific studies by Kononov (2011), Studennikov et al. (2005), and other authors. These publications provide an important basis for understanding watercourses, water bodies, river systems, hydrological regimes, coastal zones, and related natural phenomena. Their primary focus, however, is the scientific classification and description of hydrological and geographical objects rather than their interpretation as objects of urban planning and architectural-landscape design.

Geographical scholarship also uses terms such as “aquatic landscape”, “surface-water landscape”, “underwater landscape”, “littoral landscape”, and “aquatic-anthropogenic landscape”. Petrov (1989), for example, defines aquatic landscapes as aquatic complexes within the Earth’s

landscape envelope that differ according to origin, hydrological regime, geological foundation, bottom relief, and biocenoses. Such definitions are valuable because they emphasise the internal structure and ecological specificity of aquatic environments. Nevertheless, they remain primarily geographical and ecological in orientation. They explain the nature and classification of aquatic environments, but do not provide an urban planning concept that would define water spaces as territories for design, spatial organisation, regulation, and development.

Legal and regulatory sources provide another important layer of terminology. In national legislation, terms such as “state territory”, “territorial waters”, “internal waters”, “water fund lands”, “coastal protection strips”, “water protection zones”, and “sanitary protection zones” are used to regulate sovereignty, ownership, environmental protection, land use, and economic activity. The Water Code of Ukraine, the Land Code of Ukraine, and the Law of Ukraine “On the State Border of Ukraine” define the legal status and composition of water-related territories. These definitions are essential for governance and regulation, but they do not establish water spaces as architectural or urban planning objects. Their function is primarily legal and administrative.

International maritime law further develops the terminology of the aquatic environment through concepts such as “territorial sea”, “internal waters”, “contiguous zone”, “high seas”, and areas beyond national jurisdiction. The Convention on the Territorial Sea and the Contiguous Zone (1958) and the United Nations Convention on the Law of the Sea (1982) define the maritime zones over which coastal states exercise sovereignty or jurisdiction. These instruments are fundamental for international relations, navigation, maritime rights, and the delimitation of state authority. However, their terminology is not intended to describe the internal spatial, functional, ecological, and design characteristics of water spaces as objects of urban planning.

European regulatory documents also contribute to the definition of water-related concepts. Directive 2000/60/EC introduces the concept of “coastal waters” as surface waters extending towards the shore from a defined maritime line. This definition is important for environmental policy and water management. Nevertheless, as in other legal and regulatory frameworks, the emphasis is placed on water quality, protection, governance, and ecological management rather than on architectural-landscape design or the spatial organisation of water areas.

Urban planning regulations introduce terms that are more closely related to spatial organisation, but they usually focus on land adjacent to water bodies rather than on water spaces themselves. In Ukrainian urban planning legislation and standards, concepts such as “water protection zone”, “coastal protection strip”, “sanitary protection zone”, “recreational areas”, “water zones”, and “beach zones” are used in relation to the planning and regulation of areas near rivers, lakes, and seas. The State Building Standards B.2.2-12-2019, for example, regulate landscape and recreational areas, beach zones, and adjacent water zones. These documents acknowledge that water-related areas may have recreational and planning functions, but they generally treat the water body as an adjacent or supporting element rather than as an independent planning territory.

Scientific works in urban planning and landscape architecture have made a significant contribution to the study of coastal territories and water-related spaces. Vadimov (2003) investigated the ecological and urban development of riverside urbanised territories; Onyshchenko (2010) studied the integrated development of coastal cities in the Azov-Black Sea region; Lukomska (2014) examined the architectural and landscape organisation of river valley spaces in the Ukrainian Carpathians; Vyazovska (2019) analysed planning principles for water and green areas of the city.

These studies demonstrate the increasing importance of water bodies in urban development. However, they mostly focus on coastal territories, river valleys, shorelines, water-green systems, or protection zones rather than on the water surface and water column as independent objects of planning.

Several studies move closer to the problem addressed in this article. Khomych (2000) considered the functional-territorial organisation of coastal zones; Sydorova (2014) analysed the functional and planning organisation of the coastal strip of seaside resorts and identified aquatic zones within resort planning structures; Potapchuk (2005) proposed considering the coastal strip of the seas as an object of legal protection that includes both the coastal part and the marine environment. These works are important because they show that parts of the aquatic environment may be included in planning, functional organisation, or legal protection. Nevertheless, even in these studies, the aquatic component is usually interpreted as part of a broader coastal system rather than as a clearly defined urban planning object with its own structure, boundaries, and typology.

The literature therefore reveals a clear research gap. Existing terminology describes water spaces as legal zones, hydrological objects, geographical landscapes, ecological systems, recreational zones, or components of coastal protection. However, it does not provide a sufficiently integrated concept for defining natural water spaces as objects of urban planning and architectural-landscape design. This gap becomes particularly important in the context of contemporary design practice, where artificial islands, floating buildings, floating neighbourhoods, underwater structures, water-based recreational infrastructure, marine parks, and adaptive coastal projects increasingly transform water spaces into sites of human activity and spatial organisation.

In response to this gap, the present study develops the concept of “water territories”. The proposed term is intended to complement, rather than replace, existing legal, hydrological, geographical, and environmental terminology. Its specific contribution is to define water spaces as planning territories that include the water surface, water column, submerged shore, and related spatial components, and that may be designed independently or together with adjacent coastal areas. In this sense, the concept provides a bridge between scientific classification, legal regulation, environmental protection, and contemporary urban planning practice.

## **Results**

In various sciences and spheres of state activity, there are terms describing phenomena and aspects of the existence of the natural waters of the World Ocean, which the author has selected, systematised, and analysed.

As a new concept in urban and landscape planning, the author has established the concept of ‘*water territories*’ in this work, following an in-depth analysis of selected concepts and terms drawn from the following sources: terminological dictionaries, encyclopaedias, world atlases, etc., as well as the international maritime and domestic law acts. The analysis also included legislative acts and scientific works in urban planning.

### ***Domestic Legislation***

The territory associated with a state’s natural water bodies is defined in various sources as ‘territorial waters’, ‘the territorial sea’, ‘internal waters’, ‘water fund lands’, etc.

‘State territory consists of land, water, airspace, and subsoil. The legal regime governing the components of state territory is determined by the constitution, the state’s current legislation, and the norms of international law. The state’s water territory includes rivers, lakes, reservoirs, straits, and canals located within its borders. The state’s water territory also includes internal sea waters (bays, estuaries, gulfs, port waters, etc.) and territorial waters washing the state’s coastline’ (*On the State Border of Ukraine, 1992, part 13*).

According to the provisions of the Law of Ukraine On the State Border of Ukraine, the term ‘territorial waters (territorial sea)’ is defined as ‘a maritime zone located along the coast or immediately beyond the internal waters of a coastal state and falling under its sovereignty.’ The width of the territorial sea in the vast majority of states is 12 nautical miles.

There are three main methods of measuring territorial waters:

- 1) from the low-water line along the coast of the coastal state;
- 2) if the coastline is indented or jagged, or if there is a chain of islands near the coast, the method of straight baselines connecting the points on the coast and islands that project furthest into the sea may be applied;
- 3) from the internal waters.

Thus, the outer boundary of the territorial sea is a line, every point of which is situated at a distance from the nearest point of the straight baseline equal to the width of the territorial sea (12 miles) (*On the State Border of Ukraine, 1992*).

Internal waters and the territorial sea are defined in the Water Code of Ukraine as ‘water bodies of national importance’ (*Water Code of Ukraine, 1995, art. 5*).

In Water Code of Ukraine, 1995 water fund lands are defined as ‘lands occupied by seas, rivers, lakes, coastal protection strips, hydraulic structures, and the coastal strips of waterways’ (*Water Code of Ukraine, 1995 art. 4*); internal sea waters, territorial seas, and the water areas of seaports are defined as water bodies of national importance (*Water Code of Ukraine, 1995 art. 5*).

According to Part 1 of Article 58 of the Land Code of Ukraine, 2002, the concept of water fund lands is defined by their composition (*Land Code of Ukraine, 2002, art. 58*). ‘Water fund lands include lands occupied by: seas, rivers, lakes, reservoirs, other water bodies, marshes, as well as islands not covered by forests; coastal protection strips along seas, rivers and around water bodies, except for lands covered by forests; hydraulic engineering and other water management structures and canals, as well as land allocated for their right-of-way; the shore zones of waterways; and artificially created land plots within the water areas of seaports.’ (*Water Code of Ukraine, 1995, art. 4; Land Code of Ukraine, 2002, art. 58*).

‘The country’s water fund of Ukraine covers 2 million hectares, or 3% of the country’s territory, including natural watercourses (rivers and streams)—2,000 hectares, lakes and estuaries—4,000 hectares, ponds—3,000 hectares, artificial reservoirs—5,000 hectares, and marshes—5,000 hectares.’ (*The concept and composition of water fund lands, 2012*).

### ***International Maritime Law***

International relations are governed by two legal instruments: the Convention on the Territorial Sea and the Contiguous Zone of 29 April 1958, Geneva (ratified by the USSR on 20 October 1960) (*Convention on the Territorial Sea and the Contiguous Zone, 1958*) and the United Nations Convention on the Law of the Sea, 1982 (*United Nations Convention on the Law of the Sea, 1982*), as

well as the state's domestic legislation. It was the 1982 Convention on the Law of the Sea that established a unified approach to the understanding of the territorial sea (territorial waters) and set out the method for measuring their width.

‘The sovereignty of the coastal State extends to the waters of the territorial sea, the airspace above it, and the seabed and subsoil in that zone’ (*Convention on the Territorial Sea and the Contiguous Zone, 1958, art. 1, 2; United Nations Convention on the Law of the Sea, 1982, art. 2*). The territorial sea forms part of the territory of the State concerned. The regime of these zones must, however, take into account the right of all states to enjoy, within such a zone, the universally recognised freedoms of the high seas, including freedom of navigation.

‘Areas beyond the national jurisdiction of States constitute the international common heritage of mankind; these include: the high seas (including the seabed) and the airspace above them, Antarctica, outer space and celestial bodies; no State's sovereignty extends to these areas, and they are for the common use of mankind’ (*On the State Border of Ukraine, 1992*).

Thus, in international maritime law, the components of state territories are identified as the ‘the state's water territory’, ‘land territory’, and ‘airspace’, but no definitions, interpretations or planning characteristics are provided for these (*On the State Border of Ukraine, 1992, part 13*); the term ‘territorial waters (territorial sea) of a state’, used in the legal sphere and in international law, also does not pertain to the planning of water territories (or areas), but defines the physical boundaries of a country's sovereign water territories (areas) and regulates international relations.

### ***Geographical and Other Sciences***

In geographical sciences, the concept of ‘aquatic landscape’ is defined within the general classification of geographical landscapes.

The aquatic (water-surface) variant of the landscape sphere is formed within the upper layer of water with a thickness of up to 200 m (the lower limit of photosynthesis), but at depths exceeding 200 m, that is, outside the distribution of shallow-water landscapes. It is a zone of direct contact and active interaction of only two shells of the Earth - the hydrosphere and the atmosphere, and differs from all other water and land landscapes in the absence of a lithosphere. This class of aquatic landscapes is characterized by latitudinal zonation, which is to some extent similar to the latitudinal zonation of land landscapes (*Aquatic landscape science, 2025*). In terms of area (approximately 333 million square kilometres), this is one of the most widespread variants of the landscape sphere. It is found everywhere in the surface layer of ocean waters where depths exceed 200 m. At shallower depths, it transitions into the terrestrial-aquatic or shallow-water variant

‘An aquatic landscape is an aquatic complex within the Earth's landscape envelope. It is distinguished from others by its origin, stable hydrological regime, geological foundation, uniform bottom relief, and biocenoses. Classification of aquatic landscapes: river landscapes; lake landscapes; littoral landscapes; shallow-water landscapes; surface-water landscapes; underwater landscapes’ (*Petrov, 1989*).

The Earth's water surface accounts for over 70% (according to other sources—71%) (*World Atlas, 2005; Collins World Factfile, Atlas, 2010*); it is studied by geographers, oceanographers, and other scientists who investigate the structure of the Earth (e.g., the scientific works of geographer E.A. Dolginov, oceanologist H. Wright, academician V.I. Vernadsky, etc.). ‘Ocean water is the

most important and widespread natural environment. More than half of all the water in the Earth's crust is found here,' according to V.I. Vernadsky (*Vernadskyi, 2004*).

'Coastal waters are surface waters extending towards the shore from a line, every point of which is situated at a distance of one nautical mile seaward from the nearest point of the baseline from which the breadth of the territorial waters is measured, extending, where appropriate, to the outer limit of the transitional (intermediate) waters.'" (*Directive 2000/60/EC, 2000, p. 179*).

Another term similar in meaning to 'water territories' is 'water area (aquatorium)', which in official publications and legislative acts is defined as 'a section of the water surface of a specific body of water or part thereof (port, bay, sea) within defined boundaries' (*Small Mining Encyclopaedia, 2004, Vol. 1*). For example, a port's water area encompasses the roadstead, inner harbour, approaches to the port, and quays. The Water Code of Ukraine uses the term 'seaport water area (port water area)' to mean 'a part of a water body (or bodies) defined by boundaries, excluding the shipping channel, intended for the safe approach, manoeuvring, mooring and departure of vessels'. The water areas of seaports are defined in the Water Code of Ukraine as 'water bodies of national importance' (*Water Code of Ukraine, 1995, art. 5*).

As for the definitions of the terms 'aquatic landscapes', 'aquatic-anthropogenic landscapes', 'water surface' and 'water column', these refer to coastal (marine), surface, oceanic and natural waters; there are also corresponding concepts for river, lake, surface water and other landscapes. For example, aquatic or water landscapes are those with a depth of over 200 m; water-anthropogenic landscapes include reservoirs and ponds, etc.

### ***Urban Planning Legislation and Scientific Works***

According to domestic legislation (*Water and Land Codes of Ukraine, 1995*), in relation to natural water bodies, a distinction is made between a "water protection zone", a "coastal protection strip", and a "sanitary protection zone" (for the protection of certain water bodies to meet the medical and health needs of the population). "A water protection zone is a nature-protected area of regulated economic activity" (*Water Code of Ukraine, 1995, Art. 87*). "A coastal protection strip is a part of a water protection zone of the appropriate width along a river, sea, around water bodies, on which a stricter regime of economic activity is established than on the rest of the territory of the water protection zone" (*Water Code of Ukraine, 1995, Art. 1*). These zones become objects of urban planning design, for example, in 2015, the design documentation "Scheme for determining the boundaries of the coastal protection strip of the Dnipro River in the city of Vyshgorod, Kyiv region" (*SE "DNIIP Urban Planning"*).

In the State Building Standards B.2.2-12-2019 'Planning and development of territories: concepts and definitions', a general description of landscape and recreational areas and nature reserve sites is provided, which uses the phrase 'water protection areas' and other types of sites', which are established by Ukrainian legislation and form part of the structural territorial elements of the ecological network (*State Building Standards, 2019, subpara. 8.1.1. p. 43*).

The organization of a "water protection zone", a "coastal protection strip", and a "sanitary protection zone" concerning the banks of natural water bodies, their coastal territories.

'Recreational areas (water areas) are sections of land (or water space) designated for recreational activities and the leisure of holidaymakers'(State Building Standards, 2019, para. 3.54).

In Chapter 8 ‘Landscape and Recreational Areas’, the dimensions of beaches in the riparian zones of rivers, lakes, and seas are regulated (*State Building Standards, 2019, subpara. 8.4.4., 8.5.6*). In the areas and water bodies adjacent to the beach zone, beachfront and water zones should be established, for which indicative calculated areas are provided (*State Building Standards, 2019, subpara. 8.4.5*). The water zone is divided into sectors: swimming (the sector covers 70–90% of the water zone), children’s, sports, and fishing (*State Building Standards, 2019, tabl. 8.4*). For its calculation, a figure of 5 square metres per swimmer is recommended (*State Building Standards, 2019, para. 8.4.5*); the beach zone is allocated for administrative and utility, rescue and medical sectors, service sectors, and pedestrian routes, etc. (*State Building Standards, 2019, tabl. 8.4*).

According to the nomenclature of structural elements of the network of natural landscape, recreational and other green areas, the following are classified as landscape-recreational areas outside built-up areas within settlements: forest parks, meadow parks, water parks, etc.; recreational areas (short-term rest zones, forest parks; areas of summer cottage and gardening societies and associations) are listed without considering natural water bodies and watercourses. Water bodies (rivers, lakes, ponds, reservoirs, canals, except those included in green infrastructure) are classified as non-green areas within and outside built-up areas (*State Building Standards, 2019, annex D1, p. 136*).

Scientific works mainly investigated native shores and coastal water protection zones, etc., but some scientific researchers developed proposals for the organization of water spaces.

For example, Sydorova V.V. in her study “Principles of functional and planning organization of the coastal strip of seaside resorts (e.g., Bolshoi Alushta)” exploring the terms related to the coastal zone (“coastal territory”, “coastal strip”, etc.) interprets term “coastal water area” as the part of the sea surface adjacent to the shore, which is part of the coastal territory of the resort with dimensions from 500 m (minimum) to 1 nautical mile (*Sydorova, 2014, p. 4*). By Sydorova V.V., the coastal strip of seaside resorts includes zones: beach and near-beach; embankment, aquatic, cultural and household services, resort and recreational facilities, green spaces and economic and industrial; in the aquatic zone, sectors are allocated according to functional purpose: swimming, children's, sports, fishing, etc. (*Sydorova, 2014, p. 158*).

In a scientific work on the legal direction “The coastal strip of the seas as an element of the legal protection of the seas”, I.M. Potapchuk proposes the creation of a new object of legal protection of the “coastal strip of the seas”, which will extend its influence to both the marine environment and the coastal part simultaneously within the specified limits, for a more progressive approach to more effective protection of the sea (*Potapchuk, 2005*).

So, an analysis of scientific and theoretical research by geographers, urban planners, and lawyers indicates that part of the water surface can be classified as a planning object. For example, the following are identified as planning objects: the ‘coastal zone’ (comprising the ‘coastal (aquatic) zone’) (by L.V. Khomych) (*Khomych, 2000*), and the ‘coastal strip of seaside resorts’ within which the ‘aquatic zone’ is distinguished (according to Sydorova V.V.) (*Sydorova, 2014*); a new object of legal protection—the ‘coastal strip of the seas’, including the coastal part and the marine environment (after I.M. Potapchuk) (*Potapchuk, 2005*); a new strategy for settlement and the perception of ‘maritime spaces as new territory’ (after P. Velev) (*Velev, 1985*), etc.

### ***Water Territories (or Areas) with an Urban Planning Context***

In the context of architectural and landscape practice, a comprehensive approach to planning coastal areas and water bodies is essential. Based on the provisions of the Water Code of Ukraine and other sources, the author defines the concept of ‘water territories’ in an urban planning context as territories covered by the waters of natural water bodies, comprising the water surface, the water column and the submerged part of the shore, which are the subject of architectural and landscape design and development; the boundaries of these territories with the coastal part are defined from the water’s edge (during the low-water period or from the line of the greatest ebb along the shore) towards the water body (*Ruban, 2017; Ruban, 2020; Ruban, 2025*) (*Figure 1*).

As evidenced by international experience (in the UK, the Netherlands, Denmark, Japan, the UAE, Singapore, the USA, Canada, etc.), coastal and aquatic territories can be standalone or integrated objects of architectural and landscape design. For example, in the Dubai Bay (UAE), the artificial ‘Palm’ islands have been constructed, whilst in Abu Dhabi, the Louvre cultural museum centre has been built on the water’s surface; in the Netherlands and Denmark, floating neighbourhoods have been created on the water’s surface, along with floating livestock and plant farms; in Italy – underwater plant farms; in Singapore—numerous public buildings on pontoons are situated in the Marina Bay lagoon and in the coastal areas—the Gardens by the Bay; in the USA, there is rapid development of the hotel industry, which is expanding not only into above-water but also underwater spaces (hotels, such as the ‘Jules Undersea Lodge’, and restaurants); in Canada, designated marine nature reserves such as ‘Bruce Peninsula National Park’ and others (*Ruban, 2020; Ruban, 2025; Ruban, 2026*).

All this indicates that in our time humanity has already begun a wide, intensive expansion into the water spaces of the World Ocean, including for architectural and construction purposes. Therefore, in the author’s opinion, it is timely and appropriate to consider water areas from the point of view of a qualitatively new development - as an area of probable human habitation.

Thus, summarising the above and clarifying the concept of ‘water territories (or areas)’, it should be emphasised that their constituent elements in architectural and landscape planning are: (a) the water space, be it territorial waters, a river or a lake, in which the water surface and the water column (water) can be distinguished; (b) the bottom surface, where the general shoreline slope and the riverbed are distinguished (in accordance with the natural water body); (c) the airspace above it (*Ruban, 2018; Ruban, 2020; Ruban, 2025*) (*Figure 1*).

Depending on the types of natural water bodies, a distinction is made between lake, river, and marine water areas. It should be noted that every natural water body (sea, river, lake) is a unique natural complex (with its own hydrological, geomorphological, microclimatic, and biotic characteristics), characterised by the natural processes of the corresponding aquatic ecosystems (marine or freshwater bodies). The water column (for the sea—the water column; for a lake—the pelagic zone; for a river—the river channel) is divided into layers that differ in depth and conditions of sunlight penetration; in some cases, by distance from the shore, etc. Thus, the main ecological zones (layers) of the marine water column are the littoral (in shallow waters), the pelagic zone (epipelagic up to 200 m deep, mesopelagic up to 1,000 m, batipelagic (from 1,000 to 4,000 m), and benthal (deep water—over 4,000 m); in the pelagic zone of a lake, the following main ecological zones are distinguished: littoral (or coastal); transitional (or sublittoral); deep-water (or profundal); these zones on the underwater slope of the lake are also referred to as: lower, underwater portion

of the coast (littoral), coastal shoal (sublittoral), deep-water bottom of the lake basin (profundal) (*Ruban, 2020; Ruban, 2025*).

The boundaries of water territories are established in accordance with the requirements of international law at a distance of 12 miles (over 22 km 224 m) from the coastline; they must be differentiated in relation to natural water bodies: the boundaries of maritime territories are established in accordance with international law and the country's domestic legislation; the boundaries of river and lake water areas correspond to the shoreline and coincide with the boundaries (contours) of the water surface of natural water bodies (*Ruban, 2020; Ruban, 2025*) (*Figure 1*).

### Discussion

The results of the study demonstrate that the traditional system of relations between a coastal area and a natural water body is being transformed into a more complex system of interaction between coastal territories and water territories. This transformation reflects not only changes in planning theory, but also changes in real design and construction practice. Contemporary cities and coastal settlements increasingly use water spaces for recreation, transport, public functions, ecological infrastructure, artificial islands, floating architecture, marine parks, and experimental forms of habitation. Consequently, water spaces can no longer be treated exclusively as external natural surroundings or as legal zones adjacent to land. They require their own planning interpretation.

The main theoretical contribution of this article is the formulation of “water territories” as an urban planning concept. The proposed term makes it possible to describe natural water spaces as territories covered by the waters of natural water bodies and including the water surface, the water column, and the submerged part of the shore. This definition is important because it shifts the focus from the shoreline alone to the entire spatial structure of the aquatic environment. In this sense, the concept expands the object field of urban planning and landscape architecture.

The analysis of existing terminology shows that each disciplinary field captures only part of the phenomenon. International maritime law defines the boundaries of sovereignty and jurisdiction, but does not define water spaces as design objects. Hydrology and geography describe natural water bodies, aquatic landscapes, and ecological zones, but do not formulate their planning status. Environmental and water legislation regulates protection, use, and management, but does not provide a full architectural-landscape concept. Urban planning regulations address coastal protection strips, beach zones, recreational areas, and water zones, but usually treat the water body as an adjacent or supporting element. The proposed concept of “water territories” responds precisely to this fragmentation.

The practical significance of the concept lies in its potential application to planning documentation and design methodology. If water territories are recognised as planning objects, it becomes possible to define their functional zoning, ecological constraints, design regimes, permissible forms of development, spatial boundaries, and relation to adjacent coastal areas. This is especially relevant for territories exposed to flooding, storm surges, erosion, and other climate-related risks. In such contexts, water territories may become part of adaptive planning strategies rather than remaining passive natural elements beyond the scope of design.

The concept also has implications for the development of coastal resilience. In many contemporary planning situations, adaptation cannot be achieved solely through the reinforcement of shorelines or the restriction of construction in coastal protection zones. It requires a more flexible understanding of the interface between land and water. Water territories may include floating structures, amphibious architecture, floodable public spaces, ecological buffers, wetland restoration zones, recreational water sectors, and landscape systems designed to absorb or redirect hydrological pressure. Thus, the proposed concept may contribute to the integration of climate adaptation and architectural-landscape planning.

Another important implication concerns the functional diversification of water spaces. International experience demonstrates that water territories are already used for different purposes: artificial islands, floating neighbourhoods, public buildings on water, floating farms, underwater agricultural experiments, marine reserves, recreational facilities, hotel infrastructure, and cultural objects. These examples indicate that water spaces are becoming not only environmental resources, but also spatial resources. However, such development requires careful regulation. Without a clear conceptual and planning framework, the expansion of architectural and construction activity into water spaces may create ecological, legal, infrastructural, and social risks.

The proposed concept should therefore be understood not as a call for uncontrolled expansion into aquatic environments, but as a methodological instrument for more responsible planning. Recognising water territories as planning objects makes it possible to establish stricter environmental criteria, hydrological limitations, safety requirements, navigation restrictions, biodiversity protection measures, and public-access principles. In this respect, the concept may support both development and protection, provided that it is integrated with environmental assessment, water management, ecosystem-based planning, and climate adaptation strategies.

The study also confirms the need to revise the methodological foundations of architectural and landscape organisation in coastal and aquatic contexts. Planning should move from a linear model based on the boundary between land and water towards a three-dimensional model that includes the water surface, water column, submerged shore, bottom relief, airspace above water, ecological zones, hydrological dynamics, and functional use. Such a model is especially important for marine, river, and lake territories, each of which has distinct hydrological, geomorphological, ecological, and planning characteristics.

From a theoretical perspective, the concept of water territories contributes to the development of interdisciplinary urban planning knowledge. It connects legal categories of water jurisdiction, geographical categories of aquatic landscapes, hydrological categories of water bodies, and architectural categories of spatial design. This interdisciplinary character is particularly important for contemporary urban studies, where the most urgent planning challenges often occur at the intersection of environmental risk, infrastructure, legal regulation, social demand, and spatial design.

At the same time, the proposed concept requires further elaboration. The present article offers a terminological and conceptual foundation, but it does not yet provide a complete regulatory model, design code, GIS-based classification system, or quantitative assessment methodology. Future research should therefore focus on the development of criteria for identifying water territories in planning documentation; methods for mapping their boundaries; principles of functional zoning; environmental and hydrological assessment procedures; typologies of

permissible architectural and landscape interventions; and comparative case studies of existing projects in different countries.

Further research is also needed to distinguish between different types of water territories. Lake, river, marine, and oceanic water territories differ significantly in terms of depth, hydrological dynamics, ecological sensitivity, ownership regimes, navigation, seasonality, and potential forms of use. For this reason, a universal planning model is unlikely to be sufficient. Instead, differentiated methodological approaches should be developed for each type of natural water body.

In summary, the discussion confirms that the introduction of the term “water territories” is both timely and theoretically justified. It responds to the growing importance of water spaces in contemporary urban development, the increasing risks faced by coastal populations, and the insufficiency of existing terminology for architectural and landscape planning. The proposed concept provides a basis for treating water spaces as integrated, multidimensional, and regulated planning objects that may support more adaptive, sustainable, and responsible interaction between human settlement and the aquatic environment.

### **Conclusion**

The analysis of scientific and theoretical research on this issue makes it possible to conclude that numerous concepts and terms related to the aquatic environment are used in various fields of knowledge. However, their use remains inconsistent, particularly in urban planning. This inconsistency is especially evident in relation to the definition of “water areas”, since no unambiguous definition of this concept has been identified in official scientific sources, including geographical, hydrological, urban planning, and legislative domains.

The analysis covered several areas: domestic legislation, international maritime law, geographical and other sciences, urban planning legislation, and scientific works. Within each of these groups, terms and concepts related to aquatic ecosystems were identified and analysed.

For example, in the context of international and domestic legislation concerning Ukraine as an independent state, such terms as “state territory”, “territorial waters” or “territorial sea”, “internal waters”, “water fund lands”, and “the state’s water territory” are used. It should be noted that the term “territorial waters” or “territorial sea”, which is widely used in legal and international-law contexts, defines the physical boundaries of a country’s sovereign water territories and regulates international relations. However, this term does not refer to the planning or design of water territories or water areas in an urban planning context.

The geographical terms analysed in the article include “aquatic landscape”, “the aquatic” or “water-surface” variant of the landscape sphere, “coastal waters”, “water area” or “aquatorium”, “seaport water area”, as well as “aquatic landscapes”, “aquatic-anthropogenic landscapes”, “water surface”, “water column”, and other related concepts. These terms classify the aquatic environment and its components primarily as geographical phenomena.

In urban planning legislation and scientific works, such terms as “water protection zone”, “coastal protection strip”, “sanitary protection zone”, and “water protection areas” were identified. It is important to emphasise that, although these terms and concepts are relevant to urban planning, they primarily refer to coastal areas adjacent to natural water bodies rather than to the water surface itself.

Additional evidence of the timeliness and necessity of introducing new urban planning terms in relation to aquatic ecosystems is provided by the fact that humanity has already begun extensive and intensive expansion into the water spaces of the World Ocean, including for architectural and construction purposes. Today, water spaces are used by humans for a variety of functional purposes, including the creation of artificial islands, housing, public buildings, industrial facilities, green modules, and recreational zones.

Scientific urban planning studies have primarily focused on natural shorelines, coastal water protection zones, and related areas. Some of these studies have also developed proposals for the organisation and use of water spaces. In this regard, the works of L. V. Khomych, V. V. Sydorova, and I. M. Potapchuk have made important contributions to the field.

In this context, the author introduces the concept of “water territories” within an urban planning framework. According to the author, water territories or water areas are territories covered by the waters of natural water bodies and include the water surface, the water column, and the submerged part of the shore. These territories are considered objects of architectural and landscape design and development. The article proposes approaches to determining the boundaries of water areas and classifying them into several types: lake, river, and marine water territories. Water areas may be designed either independently or in combination with adjacent coastal areas.

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### **Conflict of Interest**

The author declares that there is no conflict of interest.

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## Appendix

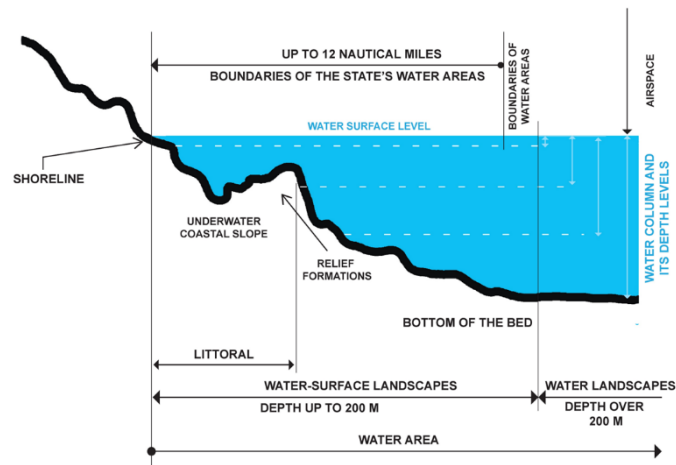


Figure 1. Schematic diagram of a water territory (or area) (by the author).