



BASIC DANUBE GLOSSARY



Impressum
NEWADA duo project consortium
Network of Danube Waterway Administrations – data and user orientation

Basic Danube Glossary 2014
Photos: NEWADA duo
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Introduction

Basic Danube glossary contains elementary terminology used by Danube waterway administrations staff in their daily business of providing safe and sustainable navigation conditions on the Danube River. This terminology is related to inland navigation, civil engineering, traffic and transport engineering, geodesy, hydrography, hydrology, geographic information systems, river information services, ecology, nature and environmental protection.

NEWADA duo (Network of Danube Waterway Administrations – data and user orientation) is a transnational project co-funded by the EU under the South East Europe Transnational Cooperation Programme. It gathers waterway administrations from 7 countries: Austria, Slovakia, Hungary, Croatia, Serbia, Romania, and Bulgaria, **sharing a common vision on the future of maintenance and development of the Danube waterway.**

For more information on the NEWADA duo project, please visit our web site: www.newada-duo.eu

For more information on the EU South East Europe Transnational Cooperation Programme, please visit web site: www.southeast-europe.net

A

ADN	Regulation annexed to the European Agreement concerning the International Carriage of Dangerous Goods by inland Waterways (UNECE document)
aerial photograph	a photograph of the earth's surface taken with camera mounted in an airplane or similar; used in cartography to provide geographical information for base maps
AGN	European Agreement on Main Inland Waterways of International Importance
alluvial	made of gravel/mud/silt/sand deposited and formed by rivers or floods
alluvium	a fine-grained deposit, composed mainly of mud and silt, deposited by a river
apron	layer of stone, concrete or other material to protect a structure's toe against scouring
aquatic dredged material placement	dredged material placement options under which the dredged material is submerged under water and remains water-saturated
aquatic habitat	submerged water communities in the sea, rivers, or lakes

**Automatic
Identification System
(AIS)**

automatic communication and identification system intended to improve the safety of navigation by assisting in the efficient operation of vessel traffic services (VTS), ship reporting, ship-to-ship and ship-to-shore operations



B

backwater	water held back in a channel or stream by a dam
ballasting	intaking ballast water to enable the vessel to clear a bridge, increasing the draught
bank protection	works to protect the bank from eroding
bar (sandbar)	elevated region of sediment (sand or gravel) that has been deposited by the flow
barrage	facility for damming a river to control its water level
barge	vessel without its own motor, it is towed/pulled by a tug
Basel Convention	Convention on the control of trans-boundary movements of hazardous wastes and their deposits (1989)
baseline study	an inventory of a natural community or environment to provide a measure of its condition at a point of time, often done to describe the status of diversity and environmental condition
bathymetry	a study of underwater depth of water bodies, topography of a water body
bed erosion	the deepening of a stream by erosion of its bed

bed load	the weight or volume of gravel rolled or moved by a stream along its bed in a unit of time
bed load function	relationship between bed load and discharge in a given cross-section of stream
bed profile	a curve indicating the elevation and shape of a river bed; may be a longitudinal curve or a transverse curve at a cross-section
Belgrade Convention	Convention regarding the regime of navigation on the Danube; signed in Belgrade on 18 August 1948; see <i>Danube Commission</i>
benchmark	a fixed point or mark whose position is known to a high degree of accuracy and is normally marked in some way
bend radius	radius of curvature of the fairway
benthos	biotic community that lives on the bottom of a body of water, classified according to the size to megalobenthos, macrobenthos, mediobenthos and microbenthos



BASIC DANUBE GLOSSARY

berth

anchorage place for vessels in ports, a ship's allotted place at a wharf or dock, a place in the water near the shore where a ship can safely stop



bilge

the lowest inner part of a ship's hull

bilge water

water containing oil from the engine room area of a ship

biodiversity

the range of different species of flora and fauna found in a given region, area, habitat or within the ecosystem

boat master

captain of a ship who bears responsibility for the ship

bottleneck

sector of the waterway with restricted fairway parameters, due to morphological, hydrological or traffic density related reasons

bow	front part of a ship
bow thruster	located in the front part of the ship, helps steering the ship
branch	parallel river stretch or closed river stretch
branch canal	a shipping canal branching off from a waterway that forms a "dead end", for connecting cities or industrial zones close to the waterway
Bratislava Agreement	Historical agreement concluded between the former state-run companies operating on the Danube, regulating, among others the legal relationships between the carriers and their partners for the international transport of cargo on Danube
bridge	a structure built to span physical obstacles such as a body of water, valley, or road, for the purpose of providing road or rail transportation passage; see vertical clearance
bulk cargo	unpacked cargo that is discharged via grabbers, diggers and similar machinery (e.g. coal, ore, grain)
bunker boat	ship that is used to supply other ships with fuels, consumables and food (possibly also for waste disposal)
buoy	floating device that aids the skippers by marking the fairway to allow ships to navigate safely



C

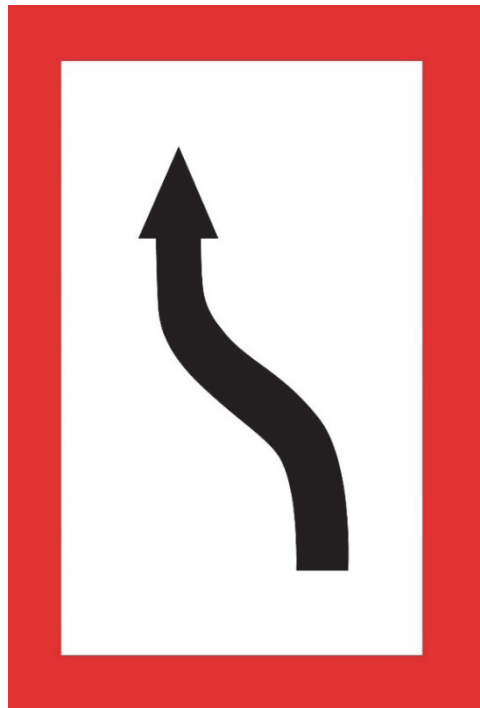
cabotage	transport between two ports in the same country
calibration	comparing accuracy of an instrument's measurements to a known standard; setting attributes and computational parameters so that a model properly represents the situation being analyzed
canal	mostly artificially created waterway or channel, mainly for the passage of vessels
Carte de Pilotage	navigational chart
catchment area of the river (drainage area, drainage basin)	drainage area of a river and its tributaries, overground and ground
CCNR	Central Commission for Navigation on the Rhine
Central Danube	navigable stretch of the Danube River between the Hungarian port of Gönyü (km 1,794) and the Iron Gate hydropower and navigation system (km 931)
CEVNI	European Code for Inland Waterways, document of the UNECE
chainage	distance along fairway axis from the mouth of the river in upstream direction.

chamber	the space enclosed between the upper and lower gate of a lock
chevron	u-shaped structure pointing upstream to divert the river flow along both sides of the structure
clay	a fine-grained earthy deposit, mainly of hydrous aluminum silicates
class certificate	Certification from an authorized institution that the ship meets the technical requirements of a particular waterway
closure bund	a dam structure in soil or rock to close a branch
coarse-grained soil	a soil in which sand and gravel predominate
container	standardized transport unit



BASIC DANUBE GLOSSARY

- container vessel** motor cargo vessel that has been constructed specifically for transporting containers
- convoy** formation consisting of one motorized and one or more non-motorized vessels (towed convoy, a pushed convoy or a side-by-side formation)
- coordinate system** a reference system consisting of a set of points, lines, and/or surfaces, and a set of rules, used to define the position of points in space in either two or three dimensions
- coastal waterway sign** inland navigation sign placed at the bank of the river



coupled formation

vessel formation comprising a motor vessel and one or more non-motorized pushed lighter

crane

machine used for moving heavy objects by suspending them from a projecting arm or beam



crane bridge

horizontal part of the crane

crest level

level of the top of hydraulic structure (e.g. gnoyne, sill, guiding bund, embankment)

critical sector

sector/section of the fairway where no sufficient depth/width/vertical clearance is guaranteed and available

cross-section, profile

a plane, generally perpendicular to the centerline of the river or the fairway

cruise ship (cruise liner)

a passenger ship used for pleasure voyages

D

- dam** a massive wall or structure erected across a valley or river for impounding water
- Danube Delta** the second largest river delta in Europe, after Volga Delta; has a high level of nature protection
- Danube** the Danube River
- Danube Commission (DC)** an international intergovernmental organization established by the Convention regarding the regime of navigation on the Danube signed in Belgrade on 18 August 1948; since 1954 its seat is in Budapest; official languages are German, Russian and French
- Danube Commission member states** Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Moldova, Ukraine, Russia
- Danube day** marked each year on the 29th of June, when 14 countries of the Danube Basin jointly celebrate one of Europe's greatest river systems and the people and wildlife that rely on it; established in 2003

DANUBE
DAY



Danube River Protection Convention

international convention for cooperation on trans-boundary water management in the Danube River Basin; signed on 29 June 1994 in Sofia and came into force in 1998

Danube Tourist Commission (DTC)

an international tourism marketing association

database

one or more structured set of persistent data managed and stored as a unit and generally associated with software to update and query the data

dead water zone

a stretch of a river where water is restrained

debris

wastes or remains of something broken down, destroyed or detached; any oversized material adversely affecting the hydraulic transport system

depth contour

a line on a map connecting points of equal depth below the hydrographic datum

Design High Navigation Level (DHNL)

design navigation level determined with the 1-D hydraulic model associated with the 1% duration of discharges over the 30 year period

Design Low Navigation Level (DLNL)

design navigation level determined with the 1-D hydraulic model associated with the 94% duration of discharges over the 30 year period

dike (or dyke)

an embankment or a levee for confronting water especially along river banks to prevent flooding of lowlands





BASIC DANUBE GLOSSARY

discharge (Q)	the volume rate of water flow, including any suspended solids (e.g. sediment), dissolved chemicals and/or biologic material, which is transported through a given cross-sectional area ($Q=AxV$, where A is cross sectional area (m^2) and V is the mean velocity of water (m/s))
discharge regime	characteristics of the discharge of a water body governed by factors such as climatic conditions, characteristic regional features of the catchment area
dock	artificially formed area of water on the bank of the river for reception of ships
downstream	direction towards the mouth of the river
draught (draft)	the vertical distance between the lowest point of the hull or the keel and the maximum draught line
Drava	the Drava River, navigable tributary of the Danube River
dredger	device, machine, or vessel that is used to excavate and remove material from the bottom of a water body
dredging	excavation of sediment from the riverbed with floating equipment
dredged material	material excavated from the riverbed
drought	continuous dry weather that is without significant rainfall

dry dock

an enclosed basin from which the water can be pumped out (a ship gets waterborne into the dock, the dock gates close, water is removed, the ship stays on docking blocks for repairs or cleaning)

duration curve

a curve showing frequency with which given values are equaled or exceeded during a certain period



E

- E port** port whose parameters are in line with the UNECE classification of European ports of international importance (specified in AGN)
- E waterway** waterway whose parameters are in line with the UNECE classification of European waterways of international importance (specified in AGN)
- E-80-Danube** European international waterway E-80 - Danube River
- ECDIS** *see: Inland ECDIS*
- echo sounder** an instrument for measuring the depth of water by recording times for sounds to be echoed back from the river bed
- ecology** study of interactions among organisms and their environment, the interactions organisms have with each other and with their abiotic environment
- ecosystem** a community of living organisms (plants, animals and microbes) in conjunction with the nonliving components of their environment (like air, water and mineral soil), interacting as a system
- EFIP** European Federation of Inland Ports; gathering nearly 200 inland ports in 19 countries of the European Union, Switzerland and Ukraine

EIA	Environmental Impact Assessment
Electronic Navigational Chart (ENC)	database, standardized as to content; structure and format, issued for use with ECDIS on the Authority of Government authorized Hydrographic Offices; contains all the chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation
embankment	a levee, an artificial bank raised above the immediately surrounding land to redirect or prevent flooding by a river, lake or sea
Emerald	Areas identified in the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)
ENI	European Navigation Identifier
environmental indicator	measure for evaluating a given environmental state as quantitatively as possible
ERI	Electronic Reporting International
erosion	geological term; process by which particles are removed by the action of wind, flowing water or waves; in the medium to long term, causes a drop in ground water levels
ESPOO	Convention on Environmental Impact Assessment in a Trans-boundary Context (UNECE)





BASIC DANUBE GLOSSARY

Etiage Navigable et de Régularisation (ENR) or Low Navigation Level (LNL)

water level derived from the rating curve, defined for all navigable sections of the river, defined by the 94% duration of discharges over the 30 year period, on days without ice (defined by the Danube Commission)

EUSDR

Strategy of the EU for the Danube Region (Danube Strategy), Macro regional strategy of the EU gathering 9 EU member states and 5 non-member states

evaporation

physical change of water into humidity or moisture suspended in the air

F

fairway	part of the waterway with specific depth, width and vertical clearance which enables continuous navigation
fairway channel	the navigable cross-section of the fairway with the minimum width and depth necessary for continuous navigation
fairway axis	center line of the fairway
fairway parameters	depth and width of the fairway, vertical clearance and bend radius
FASRB	Framework Agreement on the Sava River Basin - international agreement, which integrated all aspects of the water resources management and established the (joint) International Sava River Basin Commission (ISRBC) for the implementation of the FASRB, with legal status of an international organization
ferry	a boat service shuttling between two points
FIS (Fairway Information System)	geographical, hydrological and administrative information regarding the waterway (fairway)
fixed costs	standby costs
floating crane	crane installed on a floating unit



BASIC DANUBE GLOSSARY

floating equipment	floating structures carrying machinery used for work on waterways or in harbors (dredgers, elevators, derricks, cranes, etc.)
flood	an overflow of water that submerges land which is usually dry; excessive stream flow resulting from precipitation or snowmelt
flood control	regulation of flood waters to prevent or minimize inundation of valuable property or land
flood probability	the likelihood that a flood of a given magnitude will be equaled or exceeded in a given period; probability of 10% will be a 10-year flood, probability of 1% would be a 100-year flood
floodplain (flood plain)	an area of land adjacent to a stream or river that stretches from the banks of its channel to the base of the enclosing valley walls and experiences flooding during periods of high discharge
ford	shallow sector of the river that stretches across the whole width of the river

G

gates (of the navigation lock)

the watertight doors which seal off the chamber from the upper and lower pounds

gauge zero

elevation of the gauging station with respect to the mean sea level

gauging station

equipment for measuring the water level of over-ground water bodies



geodetic survey

a survey that takes figure and size of the earth into account, used to precisely locate horizontal and vertical positions suitable for controlling other surveys

georeference

to assign coordinates from a known reference system to the page coordinates of an image or a plane map

GIS

Geographic Information System

BASIC DANUBE GLOSSARY

GPS

Global Positioning System

**granulometric
riverbed improvement**

use of coarse gravel to cover lower zones of the riverbed in order to halt riverbed degradation of a river

**granulometry (of the
sediment)**

size of particles of sediment forming the riverbed

gravel

unconsolidated rock fragments that have a general particle size range and include size classes from granule- to boulder-sized fragments

green buoy

green floating navigation sign that marks left limit of the fairway



ground water

all subsurface water that fills voids between highly permeable ground strata comprised of sand, gravel, broken rocks, porous rocks, etc. and move under the influence of gravitation

groyne (groin), T-groyne

a rock structure generally at the angle to the river centerline to confine the flow in the fairway

guide bund

a transverse river training structure aiming to narrow the riverbed and to divert flow into the fairway in order to maintain sufficient depth by increasing the natural sediment transport capacity



H

habitat	the sum of environmental conditions in a specific place that is occupied by an organism, population or community
Haut-Niveau Navigable (HNN) or High Navigation Level (HNL)	water level derived from the rating curve, defined for all navigable sections of the river, defined by the 1% duration of discharges over the 30 year period, on days without ice (defined by the Danube Commission)
hazardous goods	materials and objects that can be hazardous to human health and environment in case of traffic accidents
head water	stretch of the waterway that is directly above a river power plant
hopper barge	open vessel with a hinged bottom for transporting and dumping dredged material
hull	watertight body of a ship or boat
Hull Database (European Hull Database - EHDB)	database containing standardized information on vessels, including European Vessel Identification Number
hydraulic modeling	application of specialized software packages in order to determine and predict flow velocity patterns of the river
hydrodynamics	a sub area of hydraulics, rules on motion of the water

and forces acting in the process

**hydrodynamic
resistance**

resistance met by a body when moving through water

hydrographic survey

surveying of the riverbed with specialized equipment in order to analyze changes of the riverbed and available water depth

hydrography

a branch of applied sciences which deals with the measurement and description of the physical features of oceans, seas, coastal areas, lakes and rivers, as well as with the prediction of their change over time, for the primary purpose of safety of navigation and in support of all other marine activities, including economic development, security and defense, scientific research, and environmental protection

hydrology

the study of the movement, distribution, and quality of water, including the hydrologic cycle, water resources and environmental watershed sustainability

hydromorphology

physical characteristics of the river, including the riverbed, banks, connections with the landscape, including longitudinal continuity and habitat continuity



I

IBA

Important Bird Area

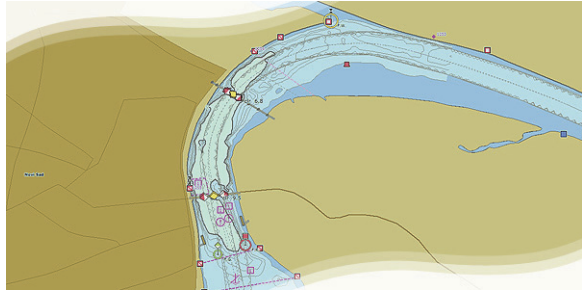


ICPDR

International Commission for the Protection of the Danube River; HQ in the UN Office in Vienna

IENC

Inland Electronic Navigational Chart; see: *Electronic Navigational Chart*



IHO

International Hydrographic Organization; established in 1921 as the International Hydrographic Bureau (IHB) with 18 nations as members; HQ in Monaco

impounded river section

section of a river that lies between two consecutive barrages

indicator species

biological species serving as an indicators of environmental change; a mean of describing environmental conditions of narrow ecological amplitude with respect to one or more environmental factors

infrastructure costs

costs of construction and maintenance of waterway infrastructure

Inland AIS

Inland Automatic Identification System - tracking and tracing system for inland navigation



BASIC DANUBE GLOSSARY

Inland ECDIS	a standardized system for displaying electronic navigational charts for inland waters and associated information, that displays selected information from proprietary electronic navigational charts for inland waters and optionally information from other sensors of the craft;
intermodal transport	transport of goods in one and the same transport unit on two or more transport modes
intermodal transport unit	loading unit standardized for two or more transport modes (container, swap body)
International Commission for the Protection of the Danube River (ICPDR)	transnational body established to implement the Danube River Protection Convention
IPA	Important Plant Area
Iron Gate	river gorge on the Danube River at the joint Serbian-Romanian stretch of the river
island	(sand) bar overgrown with bushes and trees
ISRBC	International Sava River Basin Commission; the first constitutional session of the Sava Commission was held on 27 th of June 2005, the permanent Secretariat started to work on 09 th of January 2006; HQ in Zagreb

J

Joint Statement

Joint Statement on Guiding Principles for development of inland navigation and environmental protection in the Danube River Basin; a document jointly accepted by the International Commission for the Protection of the Danube River, the Danube Commission and the International Sava River Basin Commission

K

Kazan

Small and Big Kazan; located at the Iron Gate Gorge; the deepest part of the Danube River (depth over 90 m)

keel

the long supporting piece of a ship's frame that lies lengthwise along the bottom



landscape	visually perceived natural scenery
left bank	left side of the river when moving from the source to the mouth of the river
lightering	transshipping or unloading a vessel's cargo (if the vessel is too low) on land or to another ship - primarily in the event of low water levels
lighthouse	a tower or other structure containing a beacon light to warn or guide ships at sea
load factor	percentage of the maximum possible loading of the cargo vessel
lock (navigation lock)	hydraulic system to overcome differences in height along a waterway, in which vessels may be raised or lowered by filling up or emptying out one or more lock chambers
lock chamber	a rectangular space located between gates of a lock, in which vessels may be raised or lowered during locking
lock overhaul	maintenance or replacement of elements of a lock
longitudinal dike (training wall)	a rock structure parallel to the river centerline to confine the flow in the fairway





BASIC DANUBE GLOSSARY

Low Navigable Water Level (LNWL) *see: Etiage Navigable et de Régularisation (ENR)*

Lower Danube navigable stretch of the Danube River between the Iron Gate hydropower and navigation system (km 931) and the estuary of the Danube River into the Black Sea (including the Sulina Canal and the Kilia Arm)

M

maintaining	to keep in a condition of good repair or efficiency
marking plan	plan of the position and other attributes of the all floating and coastal signs for a certain fairway or a stretch of the fairway
mean discharge	average quantity of water that flows through a certain cross-section of the river per unit of time on average over a certain period of time (m ³ /s)
Mean High Water (MHW)	mean of multi-year maximum water levels, the average water level measured at a water gauge over a specific period of time
Mean Low Water (MLW)	mean of multi-year minimum water levels
Mean Water Level (MWL)	mean water level over a multi-year period
mobile crane	crane not fixed that can be moved or driven
morphological modeling	application of specialized software packages in order to determine and predict morphological changes of the riverbed
morphology (of the river bed)	describes the shapes of river channels and how they change over time



BASIC DANUBE GLOSSARY

- motor cargo vessel** self-propelled vessel with its own motor drive and cargo hold for transporting goods
- motorized vessel** craft using its own mechanical means of propulsion, except craft whose engines are used only to cover short distances (in harbors or at loading and unloading points) or to make them easier to handle while being towed or pushed
- multibeam** specialized equipment for hydrographic surveys, used for precise 3D imaging of the riverbed
- multimodal transport** transport of goods by using two or more different modes of transport

N

NAIADES

an EU action programme in support of inland waterway transport

national park

a park in use for conservation purposes, area of the highest level of protection (lot of national parks are located along the Danube River, such as Donau Auen National Park, Fruska Gora, Djerdap, Danube Delta, etc.)

Natura 2000

EU nature & biodiversity policy





BASIC DANUBE GLOSSARY

nautical conditions	how suitable the waterway is throughout the year and whether available water depth is suited for commercial navigation
navigable waters	waters sufficiently deep and wide for navigation by all or specified sizes of vessels
Notices to Skippers (NtS)	information messages that can be sent by or on behalf of a Competent Authority to (inland) ships relating to situations or events that may impact the navigation situation on a fairway



operating costs

variable costs of the waterway transport depending on the travelling and transport performance

orthophoto

an aerial photograph geometrically corrected such that the scale is uniform; unlike an uncorrected aerial photograph, an orthophoto can be used to measure true distances, because it is an accurate representation of the Earth's surface



P

passenger vessel

vessel constructed and equipped for passenger transport



passenger quay

quay specialized for passengers, not for cargo transport

PBA

Prime Butterfly Areas

PIANC

The World Association for Waterborne Transport Infrastructure (former Permanent Association of Navigation Congresses)

point bar

a bar attached to the inner bend of the river

polluter pays principle

principle recommended by the OECD and the EU that the polluter should carry the costs of measures required to compensate for or clean up pollution

port

part of a water body and connected space on the land with facilities and equipment for transshipment and storage of cargo

port fees

charges for the use of port or transshipment site

port infrastructure	quay walls, paved surfaces and railway tracks at a port
port suprastructure	port facilities that are erected on the port infrastructure (e.g. cranes, warehouses, etc.)
precipitation	rainfall, snowfall or any condensate
public port	port owned by the government, use of the port by all navigation companies under the same conditions
pushed barge	vessel designed or specially equipped to be pushed (<i>see: barge</i>)
pushed convoy	group of vessels, one at least of which is placed in front of the motorized vessel propelling the convoy and is known as a pusher
pusher	motorized vessel used to push non-motorized freight carriers - barges



Q

quay

a stone or metal platform lying alongside or projecting into water for loading and unloading ships

quay wall

constructed vertical or almost vertical wall that can hold waterside cranes

R

- radar reflector (active)** an electronic system that responds to a received radar pulse by transmitting a similar radar pulse; target detection is improved because the actively transmitted pulse is generally more powerful than would be the case with passive reflection
- radar reflector (passive)** a device mounted on navigation signs or small crafts that provides a strong radar signature without consuming energy
- Ramsar Convention** areas identified in the Convention on Wetlands called the Ramsar Convention
- reconnection of sidearm** opening of former cut-off sidearm to a regulated river for supplying of water to ecologically valuable regions
- red buoy** red floating navigation sign that marks right limit of the fairway
- reduced visibility** conditions in which visibility is reduced due to fog, snow, rain, smoke or any other reason
- revetment** *see: embankment*

BASIC DANUBE GLOSSARY

Rhine-Danube Corridor

the only waterway among newly established EU Trans-European transport network



right bank

right side of the river when moving from the source to the mouth of the river

riparian zone (riparian area)

the interface between land and a river or stream (Danube riparian countries are Germany, Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Moldova, Ukraine, Russia)

riprap

the term usually applied to armor stone with a combination of the following characteristics: wide gradation; generally bulk placed; often placed as a cover layer and frequently used in riverbank applications

RIS Directive

RIS Framework Directive of the European Union (2005/44/EC)

river basin

the land area that is drained by a river and its tributaries

River Information Services (RIS)

harmonized information services to support traffic and transport management in inland navigation, including interfaces to other transport modes

riverbed

the base of a river

rkm

river kilometer, chainage



S

Sava	the Sava River, navigable tributary of the Danube River
scour	erosion of the riverbed
SEA	Strategic Environmental Assessment
section, reach or sub-sector	part of the river within sector
sector (of the river)	part of the river between two sections
sediment	naturally occurring material transported by water, or ice, and/or deposited by the force of gravity acting on the particle itself
sediment load	the amount of sediment passing a cross-section of a river in a specified period of time
sediment transport	movement of eroded soil and rock particles in water flow
shipper	contracting body of a transport
shipping company	company for waterway transport, having its own vessels and sales organization on land
sidearm	a branch of a river, where the amount of flow is smaller, than in the main branch

sill (bottom sill)	underwater structure constructed perpendicular to the fairway axis
siltation	pollution of water by fine particulate terrestrial clastic material, with a particle size dominated by silt or clay
singlebeam	specialized equipment for hydrographic surveys, used for surveying of cross-sectional or longitudinal profiles
special port	port specialized in the transshipment of certain types of good, for example, oil
species	group of related individuals with a common hereditary morphology, chromosomal number and structure, physiological characteristics and way of life, separated from neighboring groups by a barrier, which is generally sexual in nature, and occupying a definable geographic area.
specific weight	ratio of the weight and the volume of a body
squat	level to which a ship sinks while it is in motion compared to its stationary condition on waterways
stakeholder	a person, organization or a subgroup of an organization that have a common interest in a project or activity
stakeholder's participation	ability and enabled possibility of stakeholders to participate in the planning and implementation of infrastructure projects on the river
stakeholder's forum	organized and structured mechanism for stakeholders and public participation in planning and implementation of infrastructure projects on the river
standby costs	costs for keeping ship on standby without taking





BASIC DANUBE GLOSSARY

operational costs into consideration

stern

rear part of a ship

strategic traffic image

information affecting decisions of the users of River Information Services, displaying all relevant vessels in the RIS area, including their characteristics, loads and positions

stretch

a part of the river

suspended sediment

part of the sediment load that is in suspension (which is not bed load)

sustainability

utilization of a renewable system in a way that this system is maintained as far as its important characteristics are concerned and its stock level may be regenerated in a natural way

T

t	ton
tailwater	section of the waterway that is directly below a river power plant (<i>see: headwater</i>)
tanker	motor cargo vessel for transport of liquid goods
telematics	integrated application of telecommunication, automation and information technology
terminal	facility with infrastructure and equipment for transshipment of goods
time of lockage	time between entering and leaving the lock
ton-kilometer (tkm)	related to transport performance
towed convoy	group of vessels towed/pulled by one or more motorized vessels
Tracking and Tracing System	part of the RIS; process of monitoring and recording the past and present whereabouts of a ship shipment, as it passes through different handlers on its way to its destination, through a network; tracing refers to where the product has been, while tracking refers to where it is going next
Tisza River	the Tisza River, navigable tributary of the Danube River



BASIC DANUBE GLOSSARY

training wall	longitudinal dike
transshipment	shifting of transport units or cargo from one to another mean of transport
transshipment site	transshipment point located on the bank of the waterway without its own port basin
transponder	wireless communication, display or control device that accepts incoming signals and automatically responds to them (combination of the verbs "transmit" and "respond")
transport performance	statistical parameter in transport which takes into account the distance and weight of transported goods, measured in ton-kilometer (tkm) as a product of the weight in tons (t) transported and the route covered in kilometers (km)
tug	motorized or self-propelled vessel towing non-motorized freight carriers called barges
Twenty-foot Equivalent Unit (TEU)	a statistical parameter based on a 20 foot ISO container for describing transport capacities



UNECE

United Nations Economic Commission for Europe

Upper Danube

navigable stretch of the Danube River between Kelheim in Germany (km 2,414.72) and the Hungarian port of Gönyü (km 1,794)

upstream

direction toward the source of the river

upstream voyage

movement of vessel in the direction of the source of the river





V

- vertical clearance** vertical clearance or distance between high navigation level or max regulation level and lowest part of the bridge construction in the navigation opening
- vessel** inland waterway craft, including small craft and ferry boats, as well as floating equipment
- Vessel Traffic Services (VTS)** shore-side systems which range from the provision of simple information messages to ships, such as position of other traffic or meteorological hazard warnings, to extensive management of traffic within a port or waterway
- VHF** very high frequency
- voyage planning** application for planning of voyages in the context of River Information Services

W

warehouse	a site where raw materials or manufactured goods may be stored prior to their distribution for sale
water gauge (station)	<i>see: gauging station</i>
water level (or gauge height or stage)	water height at a certain point in the cross-section of a water body
water level forecast	estimation of water level in the near future
water self-purification	the ability of a body of water to purify itself of pollutants
waterway	any navigable water body
weir	a dam across a stream of a river, with the purpose of backing up or diverting water flow
WFD	Water Framework Directive - EU directive (2000/60/EC) which harmonizes the legal framework for water policy within the EU, related to sustainable and environmentally sound water utilization
wildlife	referring to all non-domesticated living organisms including not only vertebrate animals (mammals, birds, fish, amphibians and reptiles) but also invertebrate animals, vascular plants, algae, fungi, bacteria and all other wild living organisms



BASIC DANUBE GLOSSARY

WLAN

Wireless Local Area Network

WWF

World Wildlife Fund



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