

Code of the survey: 11130

**ANNUAL SURVEY**  
on the Protection against Water Damaging Effects in 2015

The obligation for provide data is laid down in Article 26, and penalty provisions in Article 52 of the Law on Official Statistics ("Official Gazette of RS", No 104/2009).  
**Data will be used for statistical purposes only and will not be published in form of individual data. All data are subject to confidentiality.**

**DATA ON THE REPORTING UNIT:**

1. Trade name \_\_\_\_\_

(name of the part of the legal person – local incorporated unit)

2. Registration number \_\_\_\_\_

Sequence number of the part of  
the legal person - incorporated  
local part

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3. Tax identification number \_\_\_\_\_

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4. Activity \_\_\_\_\_

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5. Municipality \_\_\_\_\_

Settlement  
(Locality)

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Telephone number \_\_\_\_\_

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Address \_\_\_\_\_

**Sequence number of the regional office**

Enter 7 for Central Serbia, i.e. 8 for Vojvodina and the sequence number of the regional office \_\_\_\_\_

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Sequence number (of the form) from the address book \_\_\_\_\_

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**LIST OF THE BASINS ON THE TERRITORY OF THE REPUBLIC OF SERBIA**

Dunav	001	Velika Morava	138	Pek	073
Tisa	695	Juzna Morava	345	Timok	002
Sava	504	Nisava	365	Drim	801
Drina	592	Zapadna Morava	190	Aegean Sea	900
Lim	619	Ibar	221		
Kolubara	517	Mlava	117		

Remarks:

on \_\_\_\_\_ 2016

Filled in by:

Head:

(First and last name)

(Seal)

First and last name)

Contact telephone number: \_\_\_\_\_ / \_\_\_\_\_  
(call sign required)

e – mail \_\_\_\_\_

**Questionnaire VOD- 3 / 2015**

**I PROTECTION AGAINST FLOOD AND RIVER CONTROL**

**Table 1 Areas and facilities flooded by surface water**

Code and name of the basin:		□ □ □ □	□ □ □ □	□ □ □ □
		1	2	3
1.	Total area, in ha			
2.	Of which : utilized agricultural area, in ha			
3.	Number of settlements			
4.	Number of buildings			
5.	Number of industrial facilities			
6.	Number of other facilities			
7.	Railway lines, in km			
8.	Roads, in km			

**Table 2 Protection against floods by surface water**

Code and name of the basin:		□ □ □ □	□ □ □ □	□ □ □ □
		1	2	3
1.	Total length of embankment, in m			
2.	Of which : main protection lines, in m			
<b>Protected</b>				
3.	Total area, in ha			
4.	Of which : utilized agricultural area, in ha			
5.	Number of settlements			
6.	Number of industrial facilities			
7.	Number of other facilities			
8.	Railway lines, in km			
9.	Roads, in km			

**Table 3 River regulation**

Code and name of the basin:		□ □ □ □	□ □ □ □	□ □ □ □
		1	2	3
1.	Total length of the regulated section, in m			
2.	Length of the embankment, in m			
3.	Length of parallel structure, in m			
4.	Length of the dam, in m			
5.	Number of dams			
6.	Length of cut-offs, in m			
7.	Number of cut-offs			
8.	Other structures, in m			

## II LAND DRAINAGE

Table 1 Areas and facilities flooded by underground water

Code and name of the basin:		_____	_____	_____
		1	2	3
1.	Total area, in ha			
2.	Of which : utilized agricultural area, in ha			
3.	Number of settlements			
4.	Number of buildings			
5.	Number of industrial facilities			
6.	Number of other facilities			
7.	Railway lines, in km			
8.	Roads, in km			

Table 2 Data on land drainage

Code and name of the basin:		_____	_____	_____
		1	2	3
<b>Area covered by drainage system</b>				
1.	Total area, in ha			
2.	Of which : utilized agricultural area, in ha			
<b>Drained areas</b>				
3.	Total area, in ha			
4.	Of which : utilized agricultural area, in ha			
<b>Pumping stations</b>				
5.	Number of stations (buildings)			
6.	Number of pumps			
7.	Total power capacity, in kW			
8.	Total capacity, Q in m <sup>3</sup> /s			
9.	Work time of the aggregate, in h			
10.	Total pumped water, in thous. m <sup>3</sup>			
<b>Canals network</b>				
11.	Main canals, in km			
12.	Other canals, in km			
13.	Canals for irrigation which are used for the drainage of the total canals network, in km			
14.	Pipes drainage, in km			

### III LAND PROTECTION FROM EROSION AND TORRENT CONTROL

**Table 1 Areas and facilities flooded by mountain waters and torrents**

	Code and name of the basin:	□□□□□□□□□□
1.	Total area, in ha	
2.	Utilized agricultural area, in ha	
3.	Number of settlements	
4.	Number of buildings	
5.	Number of industrial buildings	
6.	Number of other industrial buildings	
7.	Railway lines, in km	
8.	Roads, in km	
9.	Bridges, in m	

**Table 2 Data on land erosion**

1.	Area attacked by erosion, in km <sup>2</sup>	
2.	Untreated land, in km <sup>2</sup>	
3.	Reclaimed land, in km <sup>2</sup>	

**Table 3 Main data on torrents**

1.	<b>Torrents</b>	total number of torrents	
2.		basin area, in km <sup>2</sup>	
3.		river length, in km	
4.	<b>Torrents where works are undertaken (Controlled torrents)</b>	total number of torrents	
5.		basin area, in km <sup>2</sup>	
6.		river length, in km	

**Table 4 Torrent courses regulation**

<b>Biological and technical works</b>			
1.	Underground structures, ditches, terraces, small walls, etc., km		
2.	Forestation of eroded land, ha		
3.	Forest melioration, ha		
4.	Meadows and pastures melioration, ha		
5.	Grass growing on eroded land, ha		
6.	Growing of perennial agricultural crops, ha		
<b>Technical works in the river bed</b>			
1.	Transversal structures built	total number of structures	
2.		total, m <sup>3</sup>	
3.	Vertical structures built	total number of structures	
4.		length, m	
5.		total, m <sup>3</sup>	

#### IV CONSUMPTION OF ENERGY, FUELS AND CONSTRUCTION MACHINERY

**Table 1: Consumption of energy and fuels**

	Unit of measurement	Total consumption during the year	of which for:			Stocks at the end of year
			land protection against erosion and torrents control	land drainage	flood control and rivers regulation	
		1	2	3	4	5
1. Coal, all types <sup>1)</sup>	kg					
2. Liquefied gas (propane, butane, propane-butane)	kg					
3. Gasoline, all types (1l = 0.741 kg)	kg					
4. Diesel (1l D1=0.822 kg); (1l D2=0.839 kg)	kg					
5. Fuel oil	kg					
6. Natural gas	Nm <sup>3</sup>					
7. Electricity	MWh					xxxxxxxxxxxxx
8. Other fuels <sup>2)</sup>						
9.						
10.						

Stm<sup>3</sup> = standard cubic meter of gas at the temperature of 15°C and pressure of 760 mmHg

<sup>1)</sup> Hard coal, brown coal, lignite, dried lignite, coal briquettes, coke, etc.

<sup>2)</sup> Indicate the type of fuel and the unit measurement.

**Table 2. Construction machinery**

	Unit of measurement	Total	Of which for:		
			land protection against erosion and torrents control	land drainage	flood control and rivers regulation
(a)	(b)	1	2	3	4
1. Dredges	number				
	m <sup>3</sup> /hour				
2. Bulldozer	number				
	m <sup>3</sup> /hour				
	kW				
3. Other excavation machines	number				
	m <sup>3</sup> /hour				
4. Concrete mixers	number				
	kW				
5. Other machines _____	number				
	m <sup>3</sup> /hour				

## EXPLANATORY NOTES

### on how to fill in the questionnaire on the protection against damaging water effects

This survey serves the purpose of collecting data on flood control, flooded areas and facilities, rivers regulation, as well as those on drainage, torrents control, energy consumption and machinery.

The questionnaire is to be filled by enterprises that deal with water resources management, protection against damaging water effects and construction of hydro facilities, which belong to NACE sectors F - Construction, an area 42 – Construction of other buildings and 43 – Specialized construction works and M – Professional, scientific, innovation and technical activities, the area 71 – Architectural and engineering activities.

Available documentation is to be used to fill in the questionnaire or based on expert assessment.

**Name of the source - basin** – the name of the river in which basin the area protected/flooded is should be indicated.

**Basin** of a river is a river with all its tributaries, if they are not recorded as a separate basin. Otherwise, only the basin of the corresponding river is to be indicated (see the list of basins on the first page of the questionnaire).

## I FLOOD CONTROL AND RIVERS REGULATION

**Table 1. Areas and facilities flooded by surface waters** – All the areas and facilities that were flooded by surface waters during the year, regardless of flood duration and water level in the flooded area, are to be recorded. If an area is flooded several times, it should be counted only once.

**Table 2. Protection against flood by surface waters** – The areas and facilities which are protected by means of protective embankments are to be recorded.

**Embankment** – all embankments preventing certain areas to be flooded by surface waters are to be indicated, regardless of their year of construction.

**Total area protected** – all categories of utilized land are to be recorded: arable fields and gardens, orchards, vineyards, meadows, pastures, fishponds, swamps, ponds, forests and sterile land protected against flood by surface waters.

**Utilized agricultural area** is land area used for agricultural production, including arable land and gardens, orchards, vineyards, meadows and pastures.

**Industrial buildings** – the number of buildings and facilities used for industrial production are to be recorded, as well as the number of open-air storages in industry.

**Other buildings** – the number of all buildings and other facilities (outside the industry), e.g. economic facilities in agriculture, warehouses for trade, etc.

**Railway lines** – the length in kilometers (km) of all protected railway lines with standard and narrow gauge.

**Road** – the length in kilometers (km) of all protected roads of categories I, II, III and IV is to be recorded.

**Table 3. Rivers regulation** – data on flow cut-offs by bank revetment, parallel structures, dams and other structures are to be recorded.

**Flow cut-off** is the shortening of the river flow by cutting off larger curves.

**Bank revetment** is meant to be facilities for bank protection.

**Parallel structures** are facilities built for the regulation of river beds, which direction is parallel to the river flow (mainstream).

**Dams** are auxiliary facilities built for riverbank regulation, which are installed under a certain angle on the middle of the river flow.

**Other structures** are meant to be all other structures serving the purpose of regulating river beds.

## II LAND DRAINAGE

**Table 1. Areas and facilities flooded by underground waters** – The areas and facilities that were flooded by underground waters during the year, regardless of flood duration and water level in the flooded area, are to be recorded. If an area is flooded several times, it should be counted only once.

**Table 2. Data on land drainage** – The data on the total utilized agricultural areas covered by drainage system, as well as the number and capacities of drainage facilities and devices are to be recorded.

**Total drained area** – Total areas being drained during the year are to be recorded, regardless of the number of drainages performed and drainage method (pumps or canals) are to be recorded.

**Pumping stations** – The number of pumping stations used only for drainage is to be recorded. One or more pumps can be installed in a pumping station.

**Total power capacity** – It is to be indicated in kW (without decimals) for all pumps in pumping stations.

**Total capacity of pumps (Q)** – The installed capacity of all pumps in pumping stations in m<sup>3</sup> in s (m<sup>3</sup>/s) with two decimals is to be recorded.

**Total quantities of pumped water** - All the quantities being pumped up during the year are to be recorded in thous. m<sup>3</sup>.

**Main canals** – the length in kilometers (km) of all canals transporting water from the entire drained area directly to the water body is to be recorded.

**Other canals** – the length in kilometers (km) of all canals (collecting canals) emptying into main canals directly or indirectly, is to be recorded.

## III PROTECTION OF LAND AGAINST EROSION AND TORRENTS CONTROL

### Table 1. Areas and facilities flooded by mountain and torrent waters

Flood by torrent and mountain waters is an unexpected flood of land by water mass, which is formed in torrent flows and occurs when mountain and other waters are abruptly rising, when large quantities of stone and sludge deposits arise and which gets strong destructive power immediately after intensive local torrential rain and sudden snow melting, damaging thus such rivers as well. All the areas and facilities being flooded during the year by these waters are to be indicated. If one area has been flooded several times, it should be counted only once, when the largest area has been affected. Total flooded area comprises all land categories: arable field and gardens, orchards, vineyards, meadows and pastures, fishponds, swamps and ponds, forest land and infertile land, i.e. fertile and infertile land being protected against flood by these waters.

### Table 2. Data on land erosion

**Soil erosion** is a frequent phenomenon occurring on slopes at the moment of sudden snow melting and heavy rainfalls. Water overflow quickly such slopes devastating the soil and transporting quickly loose soil.

**Reclaimed soil** is the soil where there is no more nutrients washing offs, landslide carrying and causing of new alluviums.

### Table 3. Main data on torrents

**Torrents** are mountain streams which water level rises during periods of heavy rainfalls and sudden snow melting, thus filling river beds with riverbank landslide materials and creating ravines.

### Table 4. Torrent flow regulation

**Erosion action** or water is prevented by undertaking biological and technical works in the basin area (horizontal construction of underground structures, ditches, terraces, small walls, etc).

Under **transversal structures** are to be shown stone walls (in cement and concrete), gabions, assembled structures, and structures made of other materials.

**Horizontal structures** are wall chutes, two-sided or partially fortified river beds, underground canals, coated canals, etc.

## IV CONSUMPTION OF ENERGY, FUELS AND CONSTRUCTION MACHINERY

### Table 1: Consumption of energy and fuels

The appropriate column will be displayed consumption of electricity, coal, petroleum products and gas in the reporting year in the given units, as well as stocks at the end of the year.

### Table 2. Construction machinery

**Construction machinery** serves the purpose of performing construction and other facilities and works. The total number, assortment and capacity of machines for excavation, transport, soil leveling, maintenance of canals networks, etc. is to be recorded.

Under **other construction machinery** are to be recorded roller machines, compressors, jackhammers, digging platforms, refusers, crushers, etc.

E-form of the questionnaire with instructions and methodological explanation are available on the website of the Statistical Office: [www.stat.gov.rs](http://www.stat.gov.rs).