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|  |  | **Questionnaire VOD-3** |
| REPUBLIC OF SERBIA |  | Law on Official Statistics,”Official Gazette”, No 104/2009 |
| Statistical Office of the Republic of Serbia |  |

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**ANNUAL SURVEY**

on the Protection against Water Damaging Effects in 2017

 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**Data will be used for statistical purposes only and will not be published in form of individual data.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.**

**This questionnaire can be Filled in electronically. The electronic form is available at: pod2.stat.gov.rs/unos or [www.stat.gov.rs](http://www.stat.gov.rs/) (part quick links) or [www.euprava.gov.rs.](http://www.euprava.gov.rs/)**

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| **DATA ON THE REPORTING UNIT:** |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | **1. Trade name** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | (name of the part of the legal person – local incorporated unit) |  |  |  |  |  |  |  |  |  |
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|  | **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) |  |  |  |  |  |  |  | Telephone number |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | Address |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | **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** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

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

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|  Remarks: |

on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2018

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| Filled in by: |  | Head: |
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|  |  |  |  |
| (First and last name) |  | First and last name) |

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| Contact telephone number: |  |  |  |  | / |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (call sign required) |  |  |  |  |  |  |  |  |  |  |  |
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**Questionnaire VOD- 3 / 2017**

**I PROTECTION AGAINST FLOOD AND RIVER CONTROL**

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| **Таble 1 Areas and facilities flooded by surface water**  |
| Code and name of the basin:  |

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   |
| 1 | 2 | 3 |
| 1. | Total area, in hа |   |   |   |
| 2. | Of which : utilized agricultural area, in hа |   |   |   |
| 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 |   |   |   |

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| **Таble 2 Protection against floods by surface water**  |
| Code and name of the basin:  |

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| 1 | 2 | 3 |
| 1. | Total length of embankment, in m |  |  |  |
| 2. | Of which : main protection lines, in m |  |  |  |
|  | **Protected** |  |  |  |
| 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 |  |  |  |

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| --- |
| **Тable 3 River regulation**  |
| Code and name of the basin:  |

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| 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 |  |  |  |

**Questionnaire VOD-3 / 2017**

**II LAND DRAINAGE**

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| **Тable 1 Areas and facilities flooded by underground water** |
| Code and name of the basin:  |

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   |
| 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 |  |  |  |

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| **Таble 2 Data on land drainage**  |
| Code and name of the basin:  |

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   |
| 1 | 2 | 3 |
|  | **Area covered by drainage system** |  |  |  |
| 1. | Total area, in ha |  |  |  |
| 2. | Of which : utilized agricultural area, in hа |  |  |  |
|  | **Drained areas** |  |  |  |
| 3. | Total area, in hа |  |  |  |
| 4. | Of which : utilized agricultural area, in hа |  |  |  |
|   | **Pumping stations** |  |  |  |
| 5. | Number of stations (buildings) |  |  |  |
| 6. | Number of pumps |  |  |  |
| 7. | Total power capacity, in kW |  |  |  |
| 8. | Total capacity, Q in m3/s |  |  |  |
| 9. | Work time of the aggregate, in h |  |  |  |
| 10. | Total pumped water, in thous. m3 |  |  |  |
|  | **Canals network** |  |  |  |
| 11. | Main canals, in km |  |  |  |
| 12. | Оther 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 |  |  |  |

**Questionnaire VOD-3 / 2017**

**III LAND PROTECTION FROM EROSION AND TORRENT CONTROL**

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| **Таble 1 Areas and facilities flooded by mountain waters and torrents** |
|   | Code and name of the basin: |

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| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

   |
| 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 |   |
|  |  |  |
|  |  |  |
| **Тable 2 Data on land erosion** |
|  |  |  |
| 1. | Area attacked by erosion, in km2 |  |
| 2. | Untreated land, in km2 |  |
| 3. | Reclaimed land, in km2 |  |
|  |  |  |
|  |  |  |
| **Таble 3 Main data on torrents**  |
| 1. |  **Torrents**  | total number of torrents |  |
| 2. | basin area, in km2 |  |
| 3. | river length, in km |  |
| 4. |  **Torrents where works are undertaken (Controlled torrents)**  | total number of torrents |  |
| 5. | basin area, in km2 |  |
| 6. | river length, in km |  |
|  |  |  |
|  |  |  |
| **Таble 4 Torrent courses regulation**  |
| **Biological and technical works** |  |
| 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 |  |
| **Technical works in the river bed** |  |
| 1. | Transversal structures built | total number of structures |  |
| 2. | total, m3 |  |
| 3. | Vertical structures built | total number of structures |  |
| 4. | length, m |  |
| 5. | total, m3 |  |

**Questionnaire VOD-3 / 2017**

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

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| **Таble 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 types1) | t |  |  |   |   |   |
| 2. | Liquified gas (propane, butane, propane-butane) | t |  |  |   |   |   |
| 3. | Gasoline, all types (1l = 0.741 kg) | l |  |  |   |   |   |
| 4. | Diesel (1l D1=0.822 kg); (1l D2=0.839 kg) | l |  |  |   |   |   |
| 5. | Fuel oil | t |  |  |   |   |   |
| 6. | Natural gas | Stm3 |  |  |   |   |   |
| 7. | Electricity | MWh |  |  |   |   |  xxxxxxxxxxxx |
| 8. | Оther fuels2) |  |  |  |  |  |  |
| 9. |  |  |  |  |  |  |  |
| 10. |  |  |  |  |  |  |  |

 |

Stm3 = standard cubic meter of gas at the temperature of 15°C and pressure of 760 mmHg

1) Hard coal, brown coal, lignite, dried lignite, coal briquettes, coke, etc.

2) Indicate the type of fuel and the unit measurement.

|  |
| --- |
| **Тable 2. Construction machinery**  |
|   | Unit of measurement | Total | Of which for: |
| land protection against erosion and torrents control | land drainage | flood control and rivers regulation |
| (а) | (b) | 1 | 2 | 3 | 4 |
| 1. | Dredges | number |  |   |   |   |
| m3/hour |  |   |   |   |
| 2. | Bulldozer | number |  |   |   |   |
| m3/hour |  |   |   |   |
| kW |  |   |   |   |
| 3. | Оther excavation machines | number |  |   |   |   |
| m3/hour |  |  |  |  |
| 4. | Concrete mixers | number |  |  |  |  |
| kW |  |  |  |  |
| 5. | Other machines \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | number |  |  |  |  |
| m3/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**

**Тable 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.

**Тable 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.

**Тable 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**

**Таble 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.

**Тable 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 m3 in s (m3/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. m3.

**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.

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

**III PROTECTION OF LAND AGAINST EROSION AND TORRENTS CONTROL**

**Тable 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.

**Таble 2. Data on land erosion**

**Soil erosion** is a frequent phenomenon occuring on slopes at the moment of sudden sow 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.

**Тable 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.

**Тable 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 stonewalls (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**

**Тable 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.

**Тable 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 **оther construction machinery** are to be recorded roller machines, compressors, jackhammers, digging platforms, refulers, 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).