

## Buffer zones

Overview of unmanned aircraft systems (UAS) operating limitations (generally known as drones or model aircraft) in the context of Section I., (3), (f) of the Civil Aviation Authority (CAA) public decree „Restricted Area LKR10 – UAS“

*“Any UAS operation within buffer zones defined by relevant legislation:*

- a. along the surface traffic structures;*
- b. along the routes of surface engineering infrastructures;*
- c. along the routes of surface telecommunication networks;*
- d. within specially protected areas;*
- e. in the vicinity of water resources;*
- f. in the vicinity of the objects important for national defence;*

*may be conducted only with an operational (Specific) or flight (Open) authorization issued by the CAA, pursuant to the prior consent of the appropriate administrative authority or delegated person. Above these buffer zones, the UAS operation may be conducted only in a manner ensuring that the buffer zone will not be intruded under normal, or even under contingency conditions. The UAS operation in the fourth zone of a protected landscape area (CHKO) may be conducted without a CAA authorization, provided that the drone operation does not disturb the protected animal species.“*

The current national UAS operating limitations (as cited above from the article 3 f) of the LKR10 – UAS General measure public decree) set additional geographic zones where a UAS flight may still be conducted within the OPEN category of operation, but where previous approvals from competent institutions or authorities are required, then the operator submits the operational concept description and the associated risks including their mitigation proposal to the CAA, which then assesses the documents and then issues either a:

- Flight authorization – considered for the OPEN category of operations, no administrative fee applied; or an
- Operational authorization – for the SPECIFIC category of operations, administrative fee of 4000 CZK applies for the first and 400 CZK for each of the next authorizations.
- CAA CZ is developing the process for providing confirmations of receipt and completeness of submitted declarations for operation complying with EASA standard scenarios. Such operations require drones with class identification label C5 or C6 and will be applicable also in the geographic zones described here.

The following text provides more details concerning the individual buffer zones (BZ).

### a. BZ along the surface traffic structures

1. **Aerodromes:** there are more categories of aerodrome BZ, however these are not considered under this article (3 f) of the public decree, as the UAS operating limitations in the vicinity of aerodromes are specified under (3) (a) to (c). There the text explains that only one of these BZ is considered as UAS related (under which UAS should generally remain) – i.e. the ‘obstacle limitation surfaces’. These consist of a complex 3D virtual object, starting at ground level around the runway and rising outbound from the aerodrome up to the general UAS height limit. Due to the fact that it is difficult to find out the real shape of this BZ, the ANS CR has developed a new chart layer for the DronView map application showing a grid around all 10 controlled airports (surrounded by a control zone - CTR) as well as around uncontrolled aerodromes (surrounded by an ATZ) with maximum heights above ground inside each of the grid segments. This height limit ensures that neither the obstacle limitation surface BZ nor the regulation limits based on aerodrome operational needs will be penetrated. The grid height presents the mandatory flight height limit, unless coordinated otherwise.

If the UAS needs to be operated above these BZ, the Tooltip hint indicates the relevant UAS conditions after the CTR or ATZ objects are clicked upon in the DronView – in any case within the full ATZ airspace volume and below 120 m in the CTR, the UAS can be operated in the open category, without any of the CAA authorizations.

Around operating sites for aviation sports (e. g. microlight aircraft, powered hang-gliders) there are no BZ established. The UAS operations need to comply with the conditions set by the site operator and priority must be given to the manned aircraft of all types.

2. **Highways and roads:** The BZ along highways and roads are 50 m high 3D airspace areas reaching to each side from the roadway centreline to: highways and primary roads – 50 m, secondary roads – 15 m. There are no road BZ established for: local roads class 3 and 4, private roads and for roads within built-up areas. A built-up area is defined as an area where there are at least 5 registered buildings of different owners, located closer than 85 m from each other.

The DronView base map depicts the road network with the appropriate symbols: highways – letter D and 1 or 2 numbers on a red background; primary roads – 1 or 2 numbers on a blue background; secondary roads – 3 numbers on a blue background (see Picture Nr. 1). Other roads do not have any BZ established.

3. **Railroads:** The BZ along railroads are established as vertical planes situated sideways to the centreline of the outer railway track: (high-speed railroads – 100 m); national/regional railroads – 60 m; utility side-tracks/tram lines/trolley bus lines – 30 m; funiculars – 10 m.

The DronView base map depicts all railroads without other differentiation. The high-speed railroads do not exist yet.

**b. BZ along the routes of surface engineering infrastructures**

**Power lines:** The BZ along high-voltage power lines are established as vertical planes situated sideways in a distance according to the voltage: above 400 kV – 30 m; below 400 kV – 20 m; below 220 kV – 15 m; below do 110 kV – 12 m; below 35 kV – 7 m. Electrical substations (e. g. transformers) have a BZ situated 20 m from its outer edge.

The DronView base map depicts all power lines, but differentiation with a label can be seen for lines from 110 kV above.

**c. BZ along the routes of surface telecommunication networks**

1. **Telecommunication lines:** the Electronic communications act Nr. 127/2005 defines the establishment of these BZ in § 102, however no more details with respect to the UAS operations are known.
2. **Radio directional links:** the Electronic communications act Nr. 127/2005 defines the establishment of these BZ in § 103, however no more details with respect to the UAS operations are known.

**d. BZ within specially protected areas****1. Large scale specially protected areas****i. National parks (NP)**

The nature protection law generally prohibits drone operations in national parks outside built-up areas, and the NP Administration must be consulted for an approval. The majority of NP surface also reside within the restricted airspace areas [LKR1 to LKR4](#), where aircraft are generally restricted between ground and 300 m (1000 ft), however unmanned aircraft are entitled to enter if the respective NP Administration has previously issued an appropriate authorization. Such flights remain in the open category of operation, without the need for a CAA authorization. NP zones are scaled from A (highest level of protection) to D (inhabited areas) so it can be expected that in the prospective NP approval the conditions for drones will be appropriately tailored to the zoning.

In the outer NP parts where its surface is not covered by the specific conditions for LKR1 to LKR4 airspaces (see Picture Nr. 2), such UAS flights need an additional CAA authorization (according to the 3 (f) of the public decree) besides the NP Administration agreement.

The DronView base map depicts the NP outer boundaries only, without its zoning. The LKR airspaces are depicted in the basic object layer. The zoning of large scale protected areas can be found [here](#).

**ii. Protected landscape areas (CHKO)**

CHKO areas are scaled from Zone I. (highest level of protection) to Zone IV. (densely inhabited areas). UAS flights in Zones I. to III. are subject to the CAA flight authorization – without any exemption – i.e. including small drones and toys. UAS flights in Zone IV. are not subject to any authorization nor agreement and remain fully in the open category.

The DronView base map depicts the CHKO outer boundaries only, without its zoning. The zoning of large scale protected areas can be found [here](#).

**2. Small scale specially protected areas****i. National nature reserve (NPR)****ii. National nature sanctuary (NPP)****iii. Nature reserve (PR)****iv. Nature sanctuary (PP)**

The DronView base map depicts the outer boundaries of these small scale areas, while their adjacent BZ can be found [here](#).

**e. BZ in the vicinity of water resources****1. BZ around water reservoirs (OPVN)****2. BZ around water sources (OPVZ)**

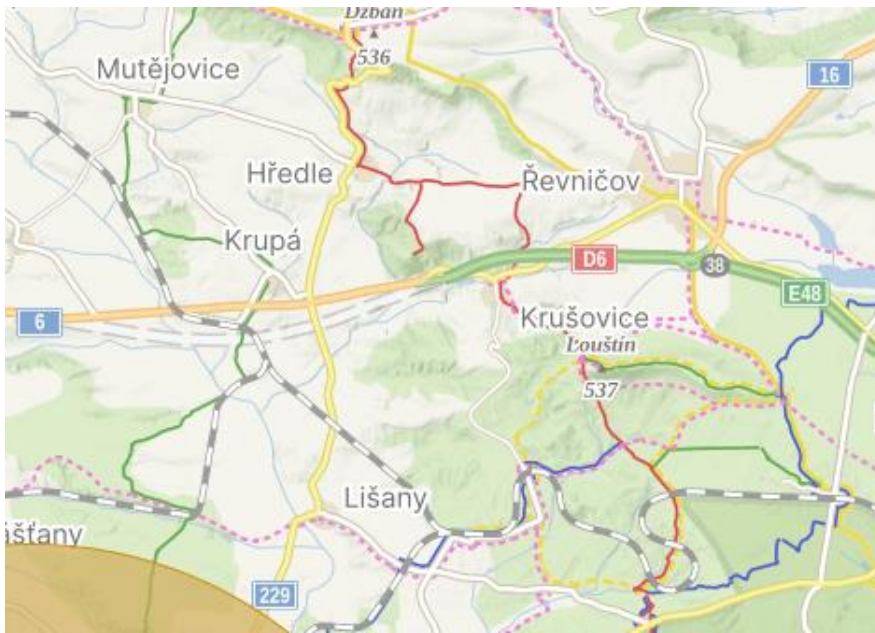
Both of these water BZ are scaled to levels 1, 2, 2a, 2b a 3. The DronView base map depicts only water reservoirs BZ level 1, (see Picture Nr. 3), since the surface area of all the other levels are significantly larger (it includes even densely populated areas up to 1000 km<sup>2</sup>) and thus it is obviously out of the intended drone regulation meaning.

All of the water BZ can be found [here](#).

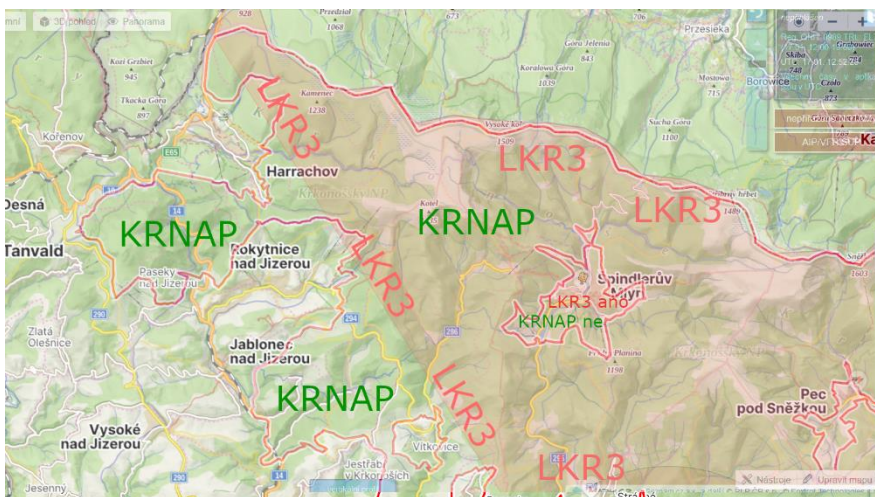
**f. BZ in the vicinity of the objects important for national defence**

These BZ include plots and structures inside the military training areas, other plots and structures under the authority of Ministry of Interior and Ministry of Defence, structures designated for public protection and other strategic objects specified by the Government. The DronView does not depict these BZ.

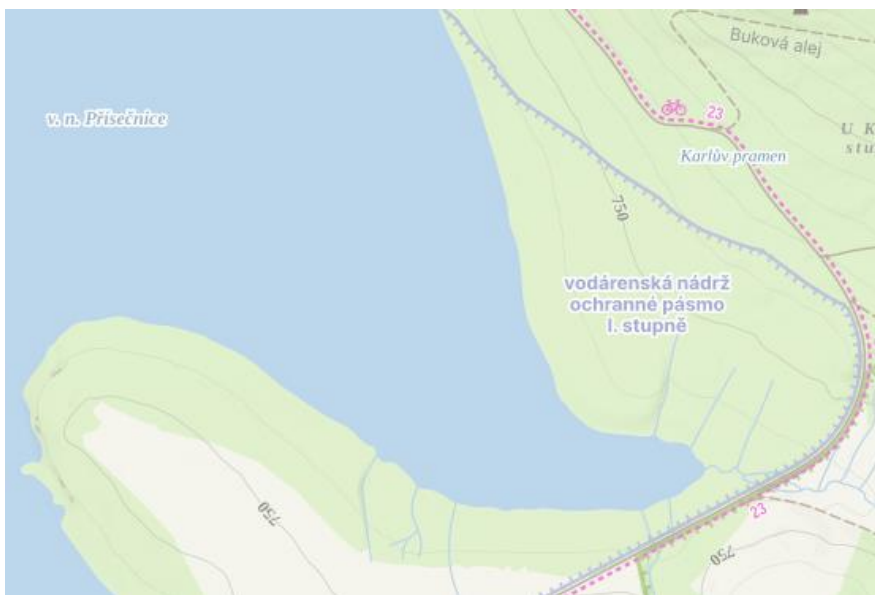
**Attachments:**



Picture Nr. 1 – road network markings



Picture Nr. 2 – national parks and aeronautical restricted airspaces (KRNAP = Krkonoše National park; ano = yes, ne = no)



Picture Nr. 3 – depiction of a BZ level 1, around water reservoirs