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ANIMAL DETERRING DEVICE UOZ-1

DESIGNED FOR HIGH-SPEED RAILWAY LINES

UOZ-1 COOPERATE WITH VARIABLE MESSAGE TRAFFIC SIGNS

Animal deterring device UOZ-1 designed for high-speed railway tracks

The UOZ-1 animal deterring device for high-speed railway lines is an innovatory and world-unique system preventing collisions of wild animals with trains, using natural fear mechanisms of animals based on instinct for survival.

Directly before a train is passing the UOZ-1 device emits a sequence of natural sounds which animals perceive as a warning of approaching danger and therefore it provokes flight. The sound sequence was developed by Associate Professor Simona Kossak (Director of the Native Forest Department of Forestry Research Institute in Białowieża), an outstanding specialist in zoopsychology.

The UOZ-1 devices are cylinder-shaped, 110cm high and 30 cm wide in diameter. They are installed every 70 m each one on the alternate side of the railway tracks in the usual places where animals cross the railway. The sound emission begins automatically activated on the basis of signals received from railway automatics system.
The complete animal deterring system consists of a set of UOZ-1 devices and coopering diagnostic modules installed in automatic interlocking system containers or in specialized UOZ containers.
Up to 32 UOZ-1 devices can work with a single container. The assumed effective operational range of a single UOZ-1 device is over 70 m, which ensures that the protected area is continuous.

The UOZ-1 devices have important advantages over traditional solutions high wire fences combined with passages for animals:

- The animals are virtually free to cross the tracks when no train is passing
- The investment cost is significantly lower. The cost of building one passage over tracks is equal to covering with UOZ-1 device system 200 to 500 km of tracks

Results of Warsaw University of Life Sciences (SGGW) tests confirmed the effectiveness of acoustic Animal Deterring Devices UOZ-1 for railway lines.
The rail tracks do not constitute a significant ecological barrier, limiting the movement of animals. The animals react properly to the sounds emitted by UOZ-1 devices. At the times that UOZ-1 devices were activated, the overwhelming majority of observed animals reacted by fleeing. After passage of the train, the animals continue activities that were interrupted: feeding or the attempt to cross to the other side of the rail line. Mammals did not get used to the acoustic signals emitted by UOZ-1 devices, since after 5 years after installing the devices along the monitored rail line, they still reacted to the warning acoustic signals.
Tests conducted on the effectiveness of UOZ-1 operation demonstrate that these devices significantly reduce the risk of collisions between animals and trains.

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