

## **Work Package 3: Proposal for integrated development of the network of protected areas in Lithuania**

### **Activity 3.4. Identification of target biodiversity hotspots**

#### **Summary of the report**

The report presents analysis as well as spatial distribution of hotspots of protected species in the territory of Lithuania. This tool analyses given incident points or weighted features, creates a map of statistically significant hot and cold spots using the Getis-Ord  $G_i^*$  statistic. It evaluates the characteristics of the input feature class to produce optimal results. This tool automatically aggregates incident data, identifies an appropriate scale of analysis, and corrects for both multiple testing and spatial dependence.

Analysis is based on Information System of Protected Species (ISPS) spatial dataset received from the State Service for Protected Areas. The data were divided into separate classes and types (birds, molluscs, amphibians, etc.). For each type of data, hotspots analysis was performed and concentrations of their location were identified in relation to biodiversity protected areas.

The results of the analysis of hotspots helped to assess suitable areas for conservation of biodiversity, which previously have not been identified as potential protected areas for biodiversity protection.

Such analysis provided the most useful and reliable results for modeling the spatial distribution of selected strictly protected species. The results of the hotspots analysis of these species were used in a multi-criteria analysis to identify the most valuable areas that could be suitable for conservation of biodiversity.

The results of the hotspots analysis of other species, which migrate long distances were not included in the multi-criteria analysis due to the unreliability of such data. This mainly includes sightings of birds and mammals that are registered in SRIS. Often, such sightings involve the species being heard or flown by and do not indicate the exact location of the protected species.