**Annex 12**

to the National Research Programme

"Development of research identified in the

Biodiversity Priority Actions Programme"

Regulations of the open tender for project applications

**Work Tasks of the Research Application for Performance of Tasks Set by Paragraph 6 of the Cabinet Regulation No. 252 of 2 April 2024 “On the National Research Programme “Development of Research Identified in the Biodiversity Priority Actions Programme””**

National Research Programme “Development of research identified in the Biodiversity Priority Actions Programme”

Details for open call for proposals

The open call for proposals is organised to ensure that the research programme meets the overarching objective of the Programme, as set out in the Cabinet Order - to generate new knowledge and solutions to reconcile nature conservation and socio-economic interests in a changing climate conditions.

The aim of the programme is to provide a basis for planning and implementing appropriate conservation measures to achieve favourable conservation status as defined in the Law on the Conservation of Species and Habitats.

**Programme tasks:**

1 To increase the knowledge base for the identification of nature conservation measures in Latvian and European Union (hereinafter referred to as – EU) planning documents and laws and regulations, for the assessment of socio-economic factors and climate change impacts on species of EU importance and habitats of EU importance whose conservation status is assessed as unfavourable;

2 To increase the knowledge base on species ecology, threats and distribution for species and habitats of EU importance for which no assessment of conservation status is known;

Work Task for Task of Programmes 1 and 2:

1. **To use an assessment methodology** in line with that used for the Habitats Directive report 2013-2018;

The assessment criteria for **habitats** have been chosen to allow the achievement of favourable conservation status to be assessed. According to Section 7(3) of the Law on the Conservation of Species and Habitats, the conservation of a habitat is considered favourable if:

1. its natural range and the areas that it covers within that range are stable or increasing;
2. the specific structure and functions which are necessary for the long-term existence of the biotope exist and are likely to continue to exist for the foreseeable future;
3. the favourable conservation of its typical species is ensured.

Therefore, each of the criteria listed below is scored according to the qualitative assessment levels to assess the conservation status of the habitats:

1. natural range of distribution,
2. total covered area,
3. specific structures and functions (including characteristic species),
4. the future prospects of the above criteria.

Only if assessments of all the criteria are favourable, the overall conservation status of the habitat can be considered favourable. If three of the four assessments are favourable, one unknown assessment is also permissible for a favourable conservation status assessment. Whereas, if one or several criteria are assessed as unfavourably poor, the overall assessment is also unfavourably poor. If there is not enough information to assess two or more criteria, the overall assessment is unknown, even if one of the criteria would be favourably assessed. Other combinations of assessments result in an unfavourable insufficient overall assessments.

To ensure that the conservation status assessments are the same across the EU Member States, explanatory notes were developed for the assessment of each criterion and, where possible, numerical parameters were used in the assessments. The following criteria must be met for the conservation status of a habitat to be considered **favourable (FV**). Where a criterion includes more than one attribute, a favourable assessment should be given to each attribute:

* 1. the natural range of distribution is stable (in balance of decline and expansion) or increasing and not less than the "range of favourable distribution"[[1]](#footnote-2);
  2. the total habitat area is stable (in a balance of decline and expansion) or increasing and at least equal to the 'range of favourable distribution' and without significant changes in distribution;
  3. specific structures and functions (including characterising species) are in good condition, and there are no significant threats;
  4. future prospects are excellent/good, no major threats, long-term viability assured.

If the assessment of the first two criteria is based on changes in the distribution range or the total habitat area over the reference period, the assessment of specific structures and functions should be based on qualitative assessment of the specific area against pre-defined quality thresholds or an assessment of the conservation status of the characteristic species. The assessment of specific structures and functions may be favourable in the following cases: if more than 90% of the total habitat area is assessed as good or better quality, if the assessment of characteristic species is favourable, if the fragmentation of the habitat area does not affect the ecological functions of the habitat.

The conservation status of a habitat is assessed as **unfavourable poor (U2**) if the assessment is unfavourable in at least one of the criteria, or in one of the features in a criterion, if it includes more than one feature:

* 1. there is a large reduction in range of natural distribution: equivalent to 1% per year over a given period or more than 10% below the "range of favourable distribution";
  2. the total habitat area decreases by more than 1% per year over a given period or there is a significant change in the overall spatial distribution, or more than 10% below the “range of favourable distribution”;
  3. more than 25% of the specific structures and functions of the habitat areas (including characteristic species) are not in good condition;
  4. future prospects are poor, significant risks are foreseeable, long-term survival is threatened.

Assessment of specific structures and functions is unknown (XX), if more than 75% of the total area of the habitat has insufficient information for the assessment of structures and functions. In all the other cases, if the above numerical values are not met, the protection status should be assessed as unfavourable - insufficient (U1).

The conservation status **of species** is assessed using a similar qualitative assessment system. According to Section 7(2) of the Law on the Conservation of Species and Habitats, the task of the conservation of species shall be to ensure the conditions which favourably influence the species and promote an optimal distribution of the populations thereof and the number of specimens in the populations. The conservation of a species shall be considered as favourable, if its:

1. population dynamics data indicate that the species ensures its existence on a long-term basis as a viable component of the characteristic habitat;
2. the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
3. there is, and will probably continue to be, sufficiently large habitats to maintain an optimal number of specimens in populations on a long-term basis.

The conservation status of species is therefore assessed according to the following criteria:

1. species distribution;
2. population size;
3. habitat of the species;
4. the future prospects of the above criteria.

The conservation status of a species can be assessed as **favourable (FV),** if each feature of the following criteria is assessed as favourable:

* 1. the species has a stable (declining and expanding in balance) or increasing distribution and at least the “area of favourable distribution”;
  2. the population is assessed to be at least as "favourable reference population" and the reproduction, mortality and age structure are not different from normal (where data is available);
  3. the habitat of the species is of sufficient size, stable or increasing, and the quality of the habitat is suitable for the long-term persistence of the species;
  4. the potential threatening factors are not relevant for the long-term survival of the species.

The conservation status of a species is assessed as **unfavourable poor (U2**) if at least one of the following criteria is assessed as unfavourable poor:

* 1. the species has shown a large decline in distribution: equivalent to 1% per year over a given period or more than 10% below the "area of favourable distribution";
  2. large declines also occur in the total population: equivalent to 1% per year over a given period and below the "favourable reference population" or more than 25% below the "favourable reference population", or a reproduction, mortality and age structure significantly different from normal (where data is available);
  3. the habitat of the species is not large enough or the quality of the habitat is not sufficient for the long-term survival of the species;
  4. there are significant impacts and threatening factors, and the long-term viability of the species is threatened.

If most of the criteria are rated as unknown (XX) due to lack of data, then the overall conservation status rating is also unknown (XX). The overall assessment of the state of conservation is unfavourable insufficient (U1), if the criteria assessments are other combinations not described above.

1. To ensure that the necessary data is collected and that scientifically sound recommendations are made for terrestrial **habitat types** with unfavourable conservation status and unknown conservation status, in accordance with the information on the assessment of the conservation status of habitats in the Annex to the Habitats Directive Report;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **code** | **priority** | **Name in English** | **Overall assessment** |
| 1 | 1150 | \* | Lagoon | U2 |
| 2 | 1210 |  | Annual plant communities on alluvial strips | U2 |
| 3 | 1220 |  | Perennial vegetation on rocky beaches | U1 |
| 4 | 1310 |  | Annual plant communities on muddy and low sandy beaches | U1 |
| 5 | 1630 | \* | Seaside grasslands | U2 |
| 6 | 1640 |  | Sandy beaches with perennial vegetation | U1 |
| 7 | 2110 |  | Embryonic dunes | U1 |
| 8 | 2120 |  | Fore-dunes | U1 |
| 9 | 2130 | \* | Grey dunes covered with herbs | U2 |
| 10 | 2140 | \* | Grey dunes with dwarf shrub stands | U1 |
| 11 | 2170 |  | Grey dunes with creeping willow | U1 |
| 12 | 2180 |  | Wooded seaside dunes | U1 |
| 13 | 2190 |  | Wet inter-dune hollows | U1 |
| 14 | 2320 |  | Dry heaths of seaside lowland sand plains | U1 |
| 15 | 2330 |  | Open space inland dunes | U1 |
| 16 | 3130 |  | Lakes with oligotrophic to mesotrophic plant communities | U2 |
| 17 | 3140 |  | Lakes with a chara algae vegetation | U1 |
| 18 | 3150 |  | Eutrophic lakes with submerged floating vegetation | U1 |
| 19 | 3190 |  | Hot falls | XX |
| 20 | 3260 |  | River overfalls and natural river stretches | U1 |
| 21 | 3270 |  | Muddy river banks with nitrogen-loving annual pioneer vegetation | XX |
| 22 | 4010 |  | Wet heaths | U1 |
| 23 | 4030 |  | Dry heaths | xx |
| 24 | 5130 |  | Juniper groves in grasslands and heaths | U2 |
| 25 | 6110 | \* | Herb pioneer communities on shallow calcareous soils | U1 |
| 26 | 6120 | \* | Sand grasslands | U2 |
| 27 | 6210 |  | Dry grasslands on calcareous soils | U2 |
| 28 | 6230 | \* | Beard grass grasslands (wasteland grasslands) | U2 |
| 29 | 6270 | \* | Species-rich pastures and grazed meadows | U2 |
| 30 | 6410 |  | Wet grasslands on periodically drying soils | U2 |
| 31 | 6430 |  | Eutrophic stands of tall herb stands | U1 |
| 32 | 6450 |  | Floodplain grasslands | U2 |
| 33 | 6510 |  | Moderately wet meadows | U2 |
| 34 | 6530 | \* | Park-type meadows and pastures | U2 |
| 35 | 7110 | \* | Intact raised bogs | U1 |
| 36 | 7120 |  | Degraded raised bogs with possible or ongoing natural regeneration | U1 |
| 37 | 7140 |  | Transitional bogs and quagmires | U1 |
| 38 | 7150 |  | Rhynchosporion alabe pioneer communities on wet peat or sand | U1 |
| 39 | 7160 |  | Mineral-rich springs and springfens | U1 |
| 40 | 7220 | \* | Sources that precipitate source lime | U1 |
| 41 | 7230 |  | Calcareous herbaceous bogs | U2 |
| 42 | 9010 | \* | Old-growth or natural boreal forests | U2 |
| 43 | 9020 | \* | Old mixed broadleaved forests | U2 |
| 44 | 9060 |  | Coniferous forests on esker-type terrain forms | U2 |
| 45 | 9080 | \* | Swamp forests | U2 |
| 46 | 9160 |  | Oak forests | U1 |
| 47 | 9180 | \* | Slope and ravine forests | U1 |
| 48 | 91D0 | \* | Boggy forests | U1 |
| 49 | 91E0 | \* | Alluvial quay and alluvian land forests | U1 |
| 50 | 91F0 |  | Mixed oak, elm, ash forests along large rivers | U1 |
| 51 | 91T0 |  | Pine forests rich in lichens | XX |
| 52 | 9070 |  | Forest pastures | XX |
| 53 | 9050 |  | Spruce forests rich in herbs | XX |

1. To ensure that the necessary data is collected and scientifically sound recommendations are made for terrestrial **species** whose conservation status is assessed as unfavourable and whose conservation status is unknown, in accordance with the information on the assessment of the conservation status of species in the Annex to the Habitats Directive Report

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **taxonomic group** | **Species name in Latin** | **species name in English** | **Overall assessment** | **related habitat** |
| 1 | plants and bryophytes | *Angelica palustris* | Marsh Angelica (Marsh Horsetail) | U2 | 1630\* |
| 2 | invertebrates | *Anthrenochernes stellae* | Hollow pseudoscorpion | U1 | forest habitats, noble trees |
| 3 | mammals | *Barbastella barbastellus* | Western barbastelle | U1 | indirectly forests, freshwaters |
| 4 | amphibians | *Bombina bombina* | European fire-bellied toad | U1 | no specific habitat preference |
| 5 | invertebrates | *Boros schneideri* | Boros schneideri | U1 | forest habitats |
| 6 | plants and bryophytes | *Botrychium simplex* | Least moonwort | U2 | dry grasslands, roadsides |
| 7 | plants and bryophytes | *Buxbaumia viridis* | Green shield-moss | U1 | forest habitats |
| 8 | invertebrates | *Cucujus cinnaberinus* | Flat bark beetle | U1 | 9020 |
| 9 | plants and bryophytes | *Cypripedium calceolus* | Llady's-slipper orchid | U1 | 9020\*, 9180\*, 91E0\* |
| 10 | plants and bryophytes | *Dianthus arenarius ssp. arenarius* | Sand pink | U1 | 2180, 2130\*, 91T0 |
| 11 | plants and bryophytes | *Dicranum viride* | Green Broom Moss | U1 | forest habitats |
| 12 | invertebrates | *Dytiscus latissimus* | Aquatic beetle | U1 | 3150 |
| 13 | reptiles | *Emys orbicularis* | European pond turtle | U2 | no specific habitat preference |
| 14 | invertebrates | *Euphydryas aurinia* | Marsh fritillary | U1 | grasslands |
| 15 | invertebrates | *Graphoderus bilineatus* | Graphoderus bilineatus | U1 | freshwaters |
| 16 | plants and bryophytes | *Drepanocladus vernicosuss* | Varnished Hook-moss | U1 | 7140 |
| 17 | plants and bryophytes | *Ligularia sibirica* | Siberian ligularia | U2 | 7160 |
| 18 | plants and bryophytes | *Linaria loeselii* | Linaria loeselii | U1 | coastal habitats |
| 19 | plants and bryophytes | *Liparis loeselii* | Bog twayblade | U1 | 7140, 7230 |
| 20 | invertebrates | *Maculinea teleius* | Scarce large blue | U1 | grasslands |
| 21 | invertebrates | *Margaritifera margaritifera* | Freshwater Pearl Mussel | U2 | 3260 |
| 22 | mammals | *Myotis dasycneme* | Pond bat | U1 | no specific habitat requirement |
| 23 | plants and bryophytes | *Najas flexilis* | Najas flexilis | U2 | 3130 |
| 24 | plants and bryophytes | *Najas tenuissima* | Najas tenuissima | U1 | 3130 |
| 25 | invertebrates | *Ophiogomphus cecilia* | Green snaketail | U1 | 3260 |
| 26 | invertebrates | *Osmoderma eremita* | Hermit beetle | U2 | 9160, 6530\* |
| 27 | invertebrates | *Oxyporus mannerheimi* | Black fungus beetle | XX | forests |
| 28 | invertebrates | *Phryganophilus ruficollis* | Phryganophilus ruficollis | XX | no specific habitat preference |
| 29 | mammals | *Pipistrellus pygmaeus* | Soprano pipistrelle bat | XX | no specific habitat preference |
| 30 | plants and bryophytes | *Pulsatilla patens* | Pulsatilla patens | U1 | 9010, 91T0, 9060 |
| 31 | fish | *Salmo salar* | Salmon | U1 | 3260 |
| 32 | plants and bryophytes | *Saussurea alpina esthonica* | Estonian saw-wort | U1 | 7230, 7160, 6410 |
| 33 | plants and bryophytes | *Saxifraga hirculus* | Yellow marsh saxifrage | U1 | 7140 |
| 34 | invertebrates | *Stephanopachys linearis* | Stephanopachys linearis | U1 | forest |
| 35 | amphibians | *Triturus cristatus* | Great crested newt | U2 | no specific habitat preference |
| 36 | invertebrates | *Unio crassus* | Thick shelled river mussel | U1 | 3260 |
| 37 | mammals | *Ursus arctos* | Brown Bear | U1 | no specific habitat preference |
| 38 | invertebrates | *Vertigo angustior* | Narrow-mouthed whorl snail | U2 | grasslands |
| 39 | invertebrates | *Vertigo genesii* | Round-mouthed whorl snail | U2 | 7230 |
| 40 | invertebrates | *Vertigo geyeri* | Geyer's whorl snail | U2 | 6450, 7140, 7230 |

1. **To use an assessment methodology** in line with that used for the Birds Directive Report 2013-2018;

For each species, the following parameters are reported to the extent relevant for that species:

* species name;
* population size;
* short- and long-term trends in population size;
* breeding (distribution size, map);
* breeding distribution trends;
* progress in the creation and management of protected areas for the conservation of bird species, development of nature conservation plans for protected areas;
* the main threatening factors;
* the safeguards in place;
* Natura 2000 coverage;
* information on the use of the species.

Population size estimates should be based on the most accurate census or monitoring data possible. As the national reference period may be different from the reporting period, data from inventories and monitoring should be converted to the corresponding reference period (2013-2018). In the report, the unit of population size for breeding birds is the pair, for migratory birds the unit of population size is the individuals. The exceptions are those bird species where counts can be more accurately made on the basis of the ecological characteristics of the bird species (e.g. number of singing males, etc.). Size of the population is given in the report either as an estimate of the possible minimum and maximum size, or as an exact number where this is possible.

For population size, short- and long-term trends are assessed. Short-term trends in population size are measured over a 12-year period, corresponding to the two reference reporting periods. This means that the short-term trends in this report cover the period of 2005-2017. Whereas, long-term population trends should be assessed using the year of the earliest bird counts as the starting year. In the report, depending on the beginning of the study, the starting year of the long-term trend is different for different species (1980, 1991, 2000 or later).

For population size, the following trend assessments are possible:

* stable - fluctuations in population size during the reporting period are statistically insignificant;
* increasing - the population size has increased by at least 10% (for short-term trend assessment) or 20% (for long-term trend assessment) during the reference period;
* declining - the population size has declined by at least 10% (for short-term trend assessment) or 20% (for long-term trend assessment) over the reporting period;
* fluctuating - for species that ecologically show typically large population fluctuations from year to year, which may be related to food availability, wintering conditions, etc. This trend assessment applies to species where population size may fluctuate by 50% between years;
* unclear - monitoring and accounting data is insufficient to assess the trend;
* no data - no monitoring or accounting data.

For each breeding species, the national breeding range is also assessed, including its stability, using the same parameters as population trends (see above).

1. To ensure that the necessary data is collected and scientifically sound recommendations are made for **bird species** for which 1) short-term trends are "declining", "uncertain", "no data", 2) for which long-term trends are the three above, 3) species for which Natura 2000 sites are to be established, as indicated in the Annex to the Birds Directive Report;

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Name in English** | **Name in Latin** | **N2000 to be created** | **Short-term population trend** | **Long-term population trend** | **Ecosystem** |
| 1 | Eurasian pygmy owl | *Glaucidium passerinum* | yes | decreasing | decreasing | forests |
| 2 | Collared flycatcher | *Ficedula albicollis* | yes | decreasing | no data | forests |
| 3 | Boreal owl | *Aegolius funereus* | yes | unclear | decreasing | forests |
| 4 | Red-backed shrike | *Lanius collurio* | yes | decreasing | decreasing | farmland |
| 5 | Short-toed snake eagle | *Circaetus gallicus* | yes | decreasing | decreasing | bogs |
| 6 | Ortolan Bunting | *Emberiza hortulana* | yes | decreasing | unclear | farmland |
| 7 | Aquatic warbler | *Acrocephalus paludicola* | yes | no data | no data | waters |
| 8 | Ruff | *Calidris pugnax* | yes | no data | decreasing | farmland |
| 9 | Arctic tern | *Sterna paradisaea* | yes | decreasing | decreasing | sandy areas |
| 10 | Coot | *Fulica atra* | yes | no data | decreasing | waters |
| 11 | Hen harrier | *Circus cyaneus* | yes | no data | decreasing | farmland |
| 12 | Black-headed gull | *Larus ridibundus* | yes | decreasing | decreasing | waters |
| 13 | Common little bittern | *Ixobrychus minutus* | yes | decreasing | no data | waters |
| 14 | Little gull | *Hydrocoloeus minutus* | yes | decreasing | decreasing | waters |
| 15 | Little tern | *Sternula albifrons* | yes | decreasing | decreasing | sandy areas |
| 16 | Black Stork | *Ciconia nigra* | yes | decreasing | decreasing | Forests |
| 17 | Black-tailed godwit | *Limosa limosa limosa* | yes | decreasing | decreasing | farmland |
| 18 | Black-necked grebe | *Podiceps nigricollis* | yes | decreasing | decreasing | Waters |
| 19 | Hazel grouse | *Bonasa bonasia* | yes | decreasing | no data | Forests |
| 20 | Western marsh harrier | *Circus aeruginosus* | yes | unclear | no data | Waters |
| 21 | Red-necked grebe | *Podiceps grisegena* | yes | decreasing | no data | Waters |
| 22 | Montagu's harrier | *Circus pygargus* | yes | unclear | no data | farmland |
| 23 | Merlin | *Falco columbarius* | yes | decreasing | decreasing | Miscellaneous |
| 24 | Short-eared owl | *Asio flammeus* | yes | no data | no data | farmland |
| 25 | Horned grebe | *Podiceps auritus* | yes | decreasing | decreasing | Waters |
| 26 | Tawny pipit | *Anthus campestris* | yes | decreasing | decreasing | sandy areas |
| 27 | Eagle-owl | *Bubo bubo* | yes | decreasing | no data | Forests |
| 28 | European roller | *Coracias garrulus* | yes | decreasing | decreasing | Forests |
| 29 | Great gray owl | *Strix nebulosa* | yes | no data | no data | Forests |

1. Impact of conservation regime, management, socio-economic and climate change on the conservation status of Annex I, II and IV habitats and species of the Habitats Directive in Latvia (priority – species with unfavourable conservation status);

3 To develop scientifically sound proposals for optimal spatial connectivity of species and habitats of EU importance, including specially protected areas, micro-reserves and habitats and species habitats outside the network of protected areas into a single network of nature territories;

Work assignment

3.1 Following the habitat connectivity approach, identify/designate areas where the concentration of natural values is the highest and make proposals on the way forward for the protection of these areas.

3.2 Using spatial analysis tools and existing grassland connectivity data, identify areas for strengthening the Natura 2000 network and developing protected areas (Habitat Connectivity Model for the whole country, including outside protected areas, which will delineate grassland and forest areas, taking into account the EU Biodiversity Strategy 2030).

3.3 The assessment should include proposals for the creation of new protected areas, improved compensation mechanisms, improved management conditions and the introduction of voluntary conservation schemes, taking into account property rights.

Functionality and connectivity of the network of protected areas important for biodiversity (priority species and habitats of Annexes I and II of the Habitats Directive) in Latvia: analysis and proposals for improving the network

The final output of this study is a combined forest-grassland connectivity model.

4 Researches on habitat dynamics as affected by different management practices and climate variability, assess ecosystem services and values to prioritise conservation planning in a cost-effective manner, and develop and validate an economic model for biodiversity sustainability, conservation and restoration (catalogue compensating measures, assess the degree of impact mitigation and compensating measures).

Work assignment

4.1 The research should develop a number of alternative scenarios, taking into account future projections and strategic settings in policy planning documents, in order to find an optimal balance between climate change mitigation objectives and nature conservation objectives, promoting sustainable development of territories. Include land-use related measures (e.g. land management and infrastructure development, including for renewable energy) in the scenarios;

4.2 to establish a balanced set of measures that reconcile the scenarios for achieving the objectives set out in paragraph 10.4.1 of the Regulations, adapting to climate change and promoting sustainable economic activity, while also ensuring the conservation of nature for future generations.

4.3 Predicting climate change impacts on ecosystems, habitats and species of EU importance in Latvia: a multi-faceted analysis of impacts and adaptation options.

Long-term dynamics of ecosystems and habitats under different management approaches. VPP: Development and validation of a methodology for assessing the effectiveness of protected habitat management measures;

Identifying and monetising ecosystem services and values

1. The range of favourable distribution is the total area where all the ecological variants of a particular habitat are found and which is large enough to ensure the long-term persistence of the habitat. Source: DG Environment. 2017 Reporting under Article 17 of the Habitats Directive: Explanatory notes and guidelines for the period 2013-2018. Brussels. [↑](#footnote-ref-2)