

Convention on the Conservation of the European Wildlife and Natural Habitats (Bern, 1979)



THE GROUP OF EXPERTS ON INVASIVE ALIEN SPECIES

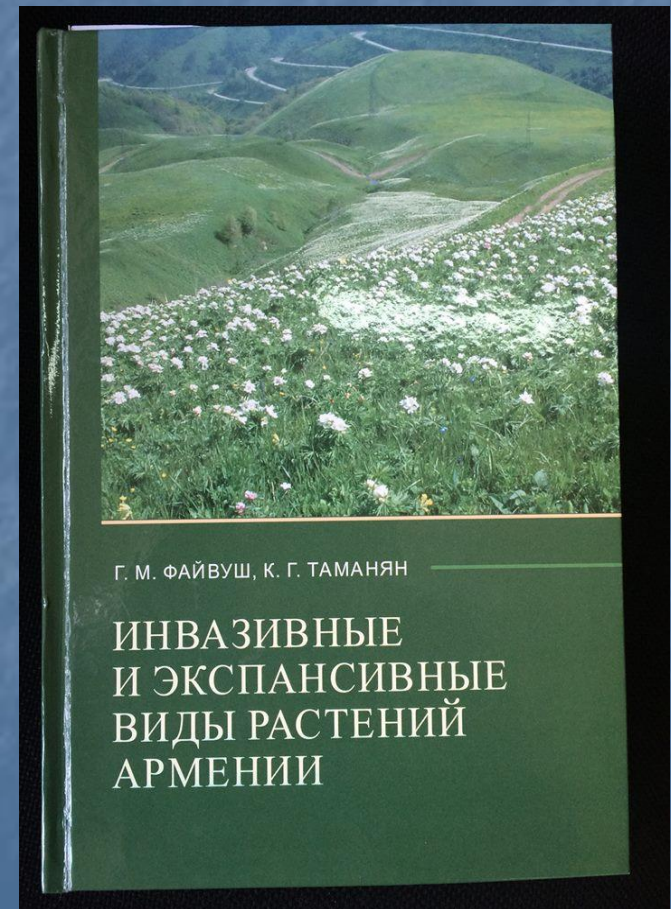
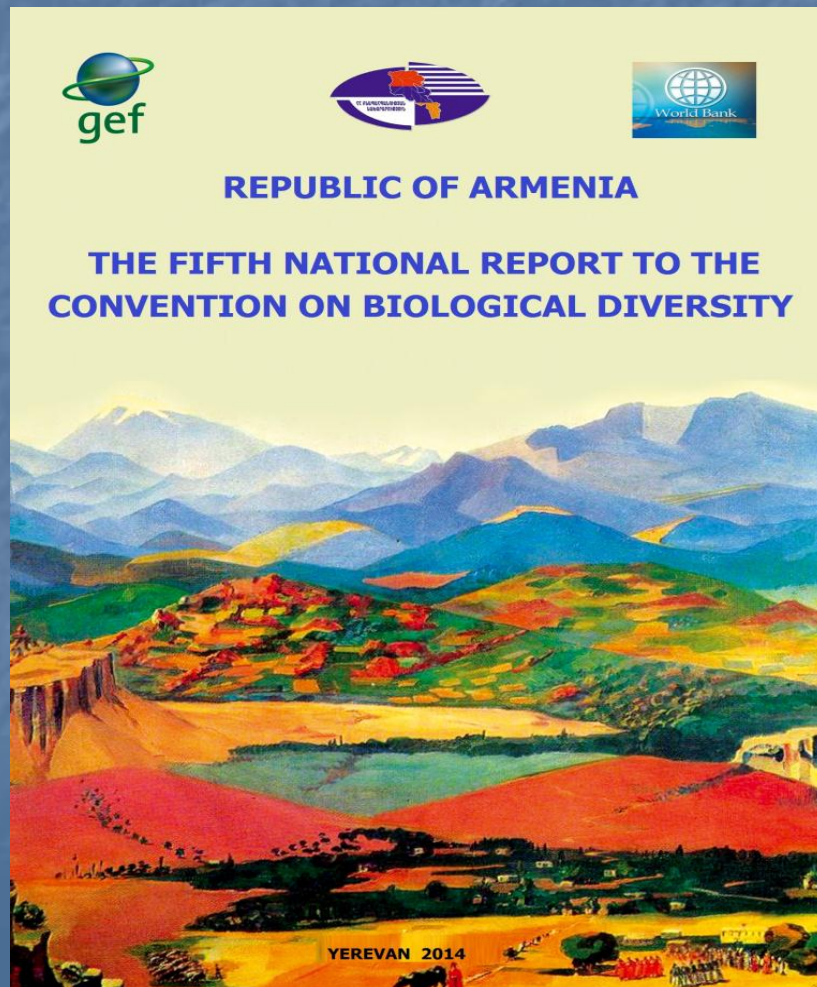
<<TRIGLAV>> National park, Slovenia 4-5 JUNE 2015

Hasmik Ghalachyan-Ministry of Nature Protection

Republic of Armenia

5th National Report of Republic of Armenia (2015) of the UN Convention of Biodiversity
estimation works of invasive and expansive flora and fauna species spread in Armenia in recent years, the analysis of the impact of alien flora and fauna species on the natural ecosystems of the Republic of Armenia,

"Invasive and expansive flora species of Armenia" published by the Institute of Botany of NAS
published by the Institute of Botany of NAS at 2014 based on the results of the studies done in the scope of the scientific thematic state projects of the Institute of Botany of NAS in recent years.



Republic of Armenia

Area – 29740 sq. km

Altitudes – 375 – 4095 m a.s.l.

Population ~ 3,500.000



Flora ~ 3800 species of vascular plants

144 endemic species (3.8% of total flora). In the Red Book of Plants of Armenia 452 species of vascular plants (11,89% of the flora of Armenia) and 40 species of fungi (1,05% of the biota of Armenia) are registered.

100 plant species per 1 km².

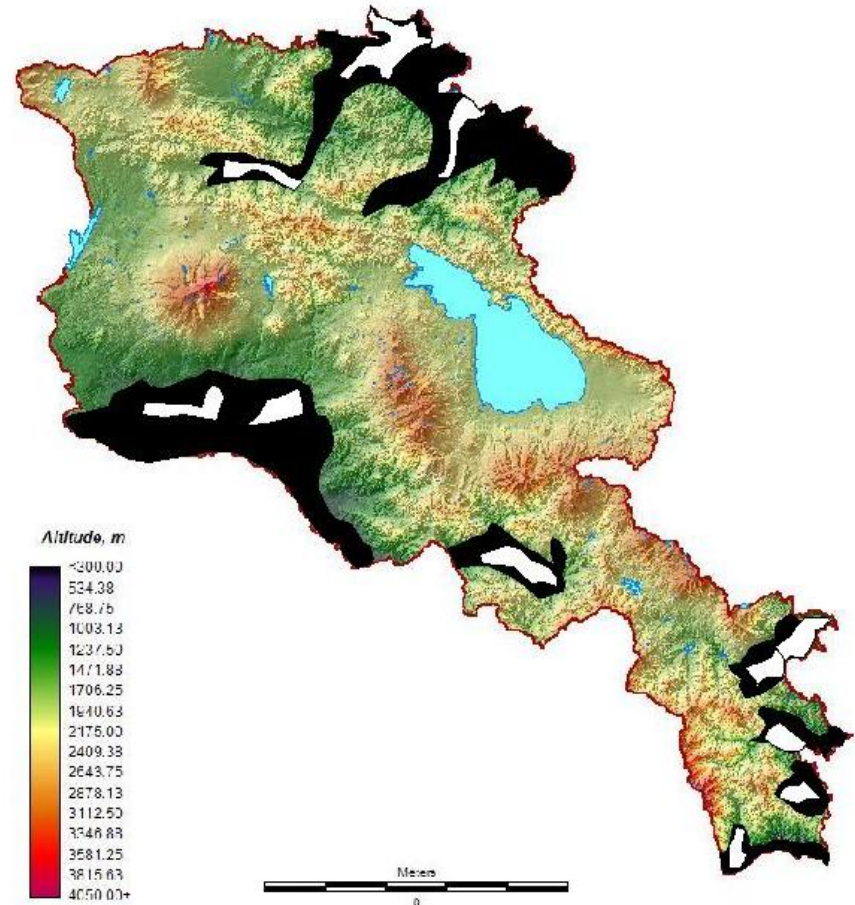
The plants belong to the following categories:

- Critically Endangered (CR) - 141 species
- Endangered (EN) - 248 species
- Vulnerable (VU) - 64 species

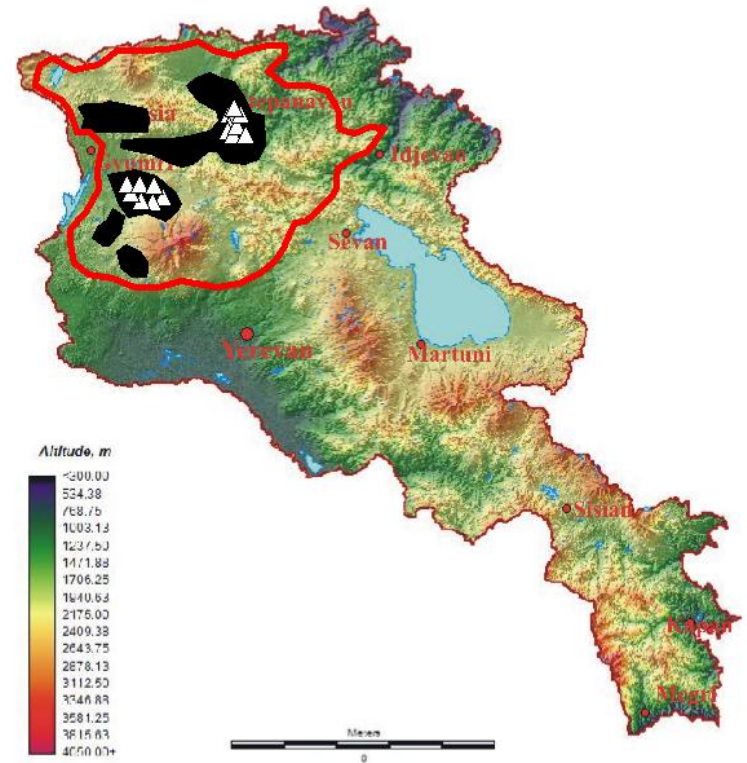
Impact of alien species

- The analysis of dissemination of the most dangerous invasive and expansive plant species of Armenia shows that in recent years some of them have considerably widened the limits of their distribution. The density of their populations has increased with their penetration and establishment in natural ecosystems.
- The studies on distribution of invasive species are not sufficient. The works on observation of distribution of the aggressive species such as *Ambrosia artemisiifolia*, *Silybum marianum*, *Ailanthus altissima* and *Robinia pseudoacacia* have started only in recent years. Intensive dissemination of the mentioned species has been observed, however no measures on control are implemented. The legislation on introduction of alien species is not regulated. For the species of agricultural significance the permits are issued by the RA Ministry of Agriculture without assessing the risks of biological invasions.

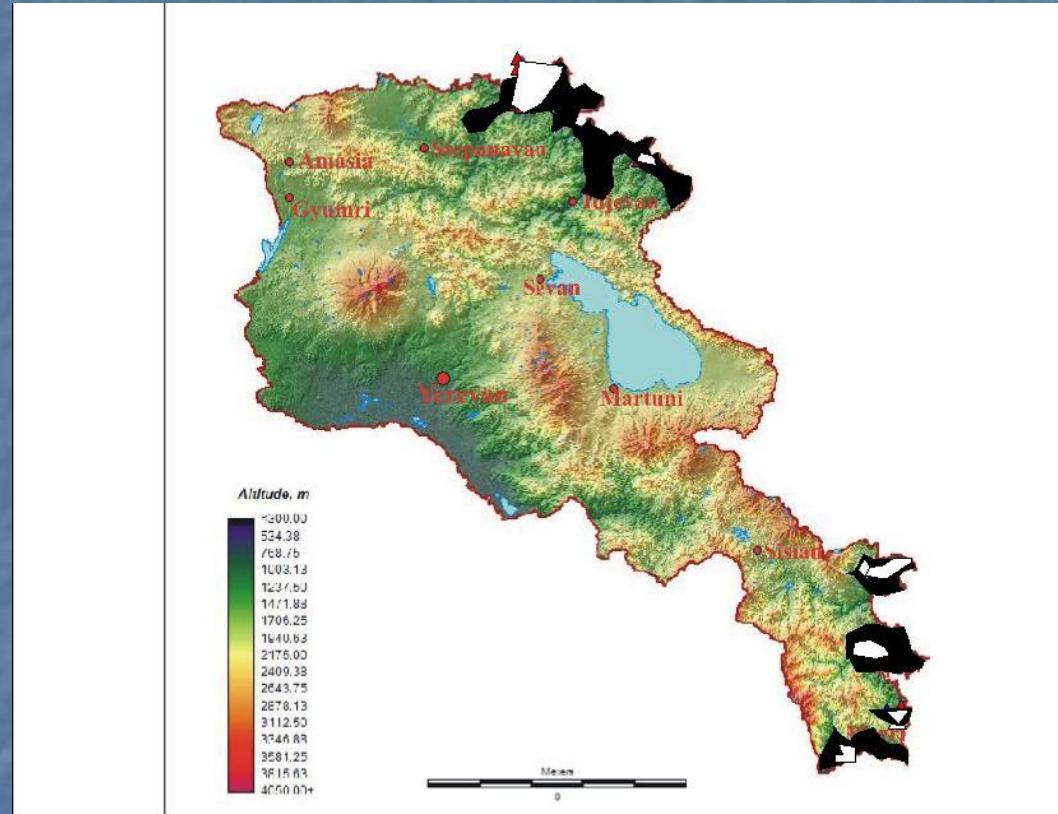
Ailanthus altissima



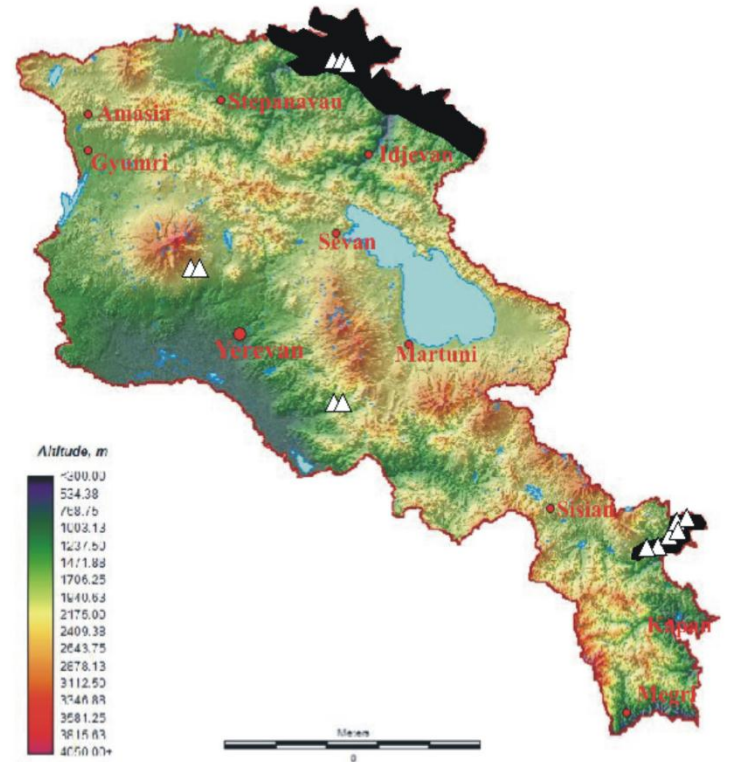
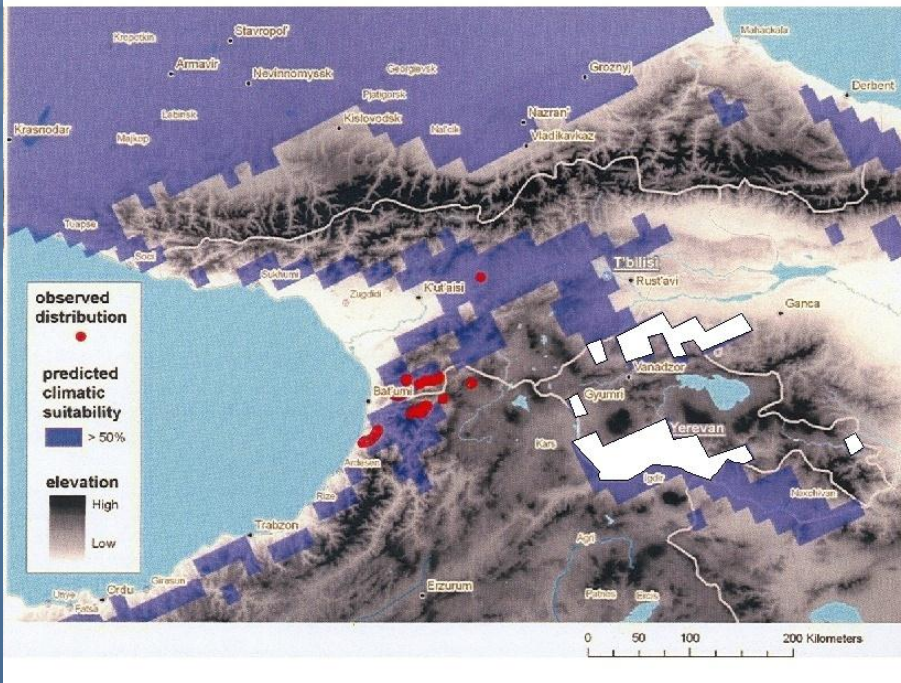
Astragalus galegiformis



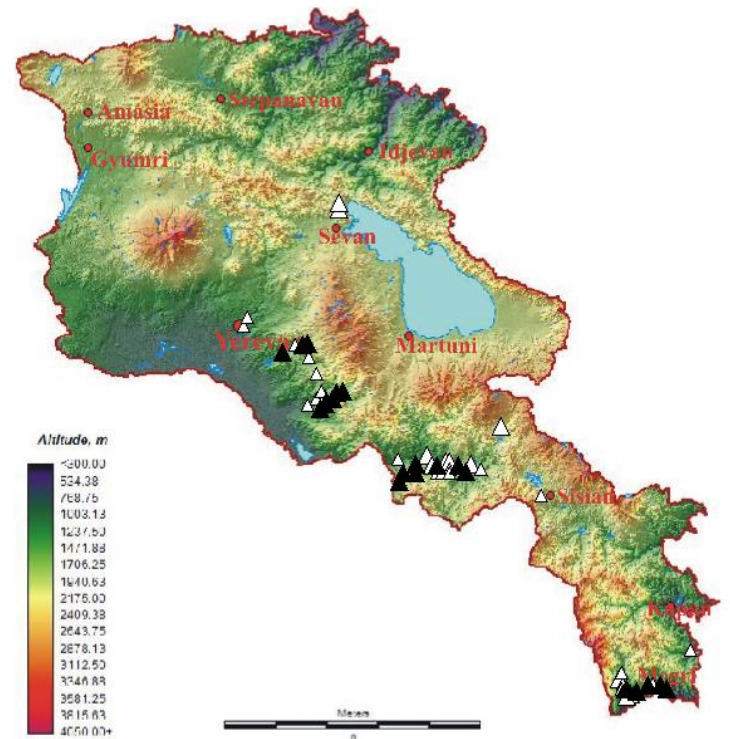
Silybum marianum



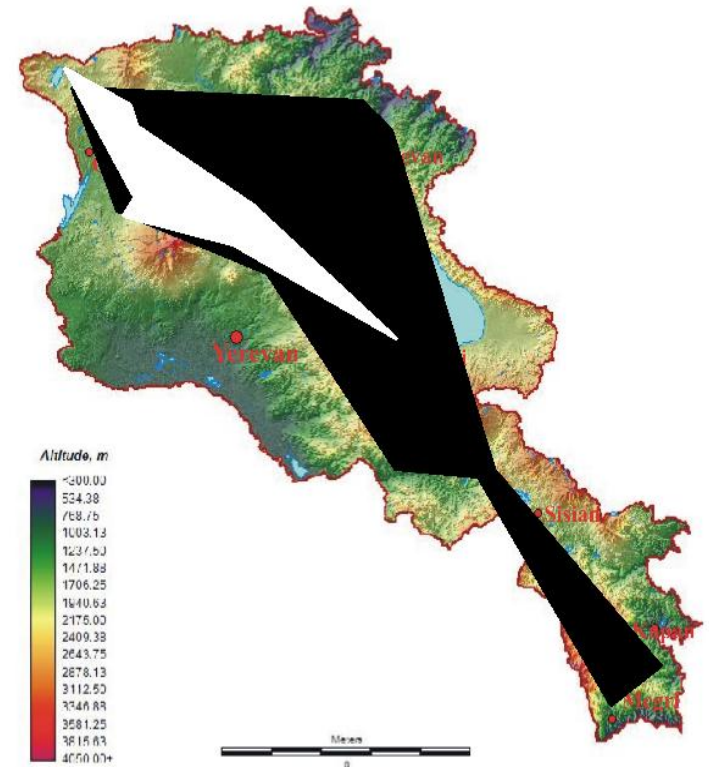
Robinia pseudoacacia



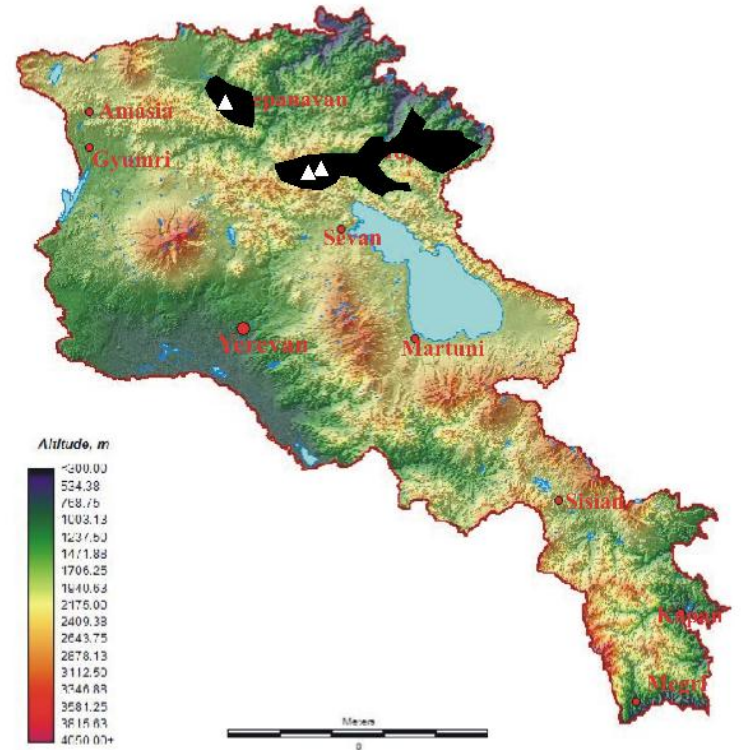
Clematis orientalis



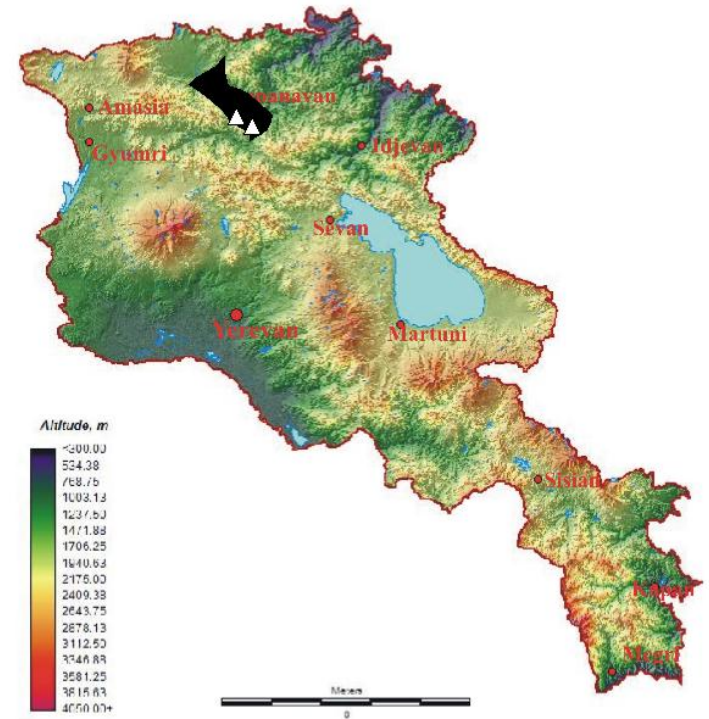
Tanacetum vulgare



Echinocystis lobata



Impatiens glandulifera



Invasive and expansive species

- Over the recent years a general assessment of distribution of invasive and expansive species has been done. In the result, 78 alien invasive and locally expansive species have been listed, which at present are distributing in degraded habitats and have already penetrated natural ecosystems with causing threats to wild biodiversity. Among them the species of great concern include
- **Achillea filipendulina, Ailanthus altissima, Anthemis cotula, Anthemis triumphettii, Astragalus galegiformis, Centaurea solstitialis, Leucanthemum vulgare, Onopordum armenum, Silybum marianum, Tanacetum parthenium, Tripleurospermum transcaucasicum, Acer negundo, Alliaria petiolata, Carthamus turkestanicus, Centaurea iberica, Chondrilla juncea, Cirsium incanum, Clematis orientalis, Conyza canadensis, Goebelia alopecuroides, Heracleum sosnowskyi, Onopordum acanthium, Verbascum laxum and others.**
- On the basis of risk assessment these species were distributed on 5 categories.
- **Category 5 – Invasive or expansive species, very widely distributed in and destroying of natural ecosystems (in Armenia not registered yet).**
- **Category 4 - Invasive or expansive species intensively penetrating into natural ecosystems.**
- **Category 3 - Invasive or expansive species widely distributing in disturbed habitats, and rare penetrating into natural ecosystems.**
- **Category 2 - Invasive or expansive species distributed in disturbed habitats, but not registered (or growing there solely) in natural ecosystems yet.**
- **Category 1 – Invasive species have great invasive potential (known as invasive species in other countries), growing on disturbed habitats or in artificial plantations, but not threat natural ecosystems of Armenia yet.**

Invasive and expansive species

101 **taxons**:

Invasive alien species
and aborigine
expansive species



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Fauna

According to the recent data in the fauna of Armenia the vertebrates are represented by 549 species, including 93 mammals (instead of previously mentioned 83), 357 birds (instead of previously mentioned 353), 53 reptiles, 7 amphibians and 39 fish species.

The fauna of Armenia is notable for high endemism (about 500 species making about 3% of the fauna).

In the result the Red Book of Animals of Armenia has been prepared and published, which includes 308 species: 155 vertebrates and 153 invertebrates.

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<<Lake Sevan>> National park



- Over the recent years the increase of water level of Lake Sevan has been gradually resulting in changes of limnosystem, especially in the lake littoral zone. The mentioned changes create favorable conditions for adaptation of new species of animals. In the lake a rather dangerous process for the lake ecosystem and its biodiversity has been observed, which is a trend of introduction of the alien species not typical for the given ecosystem, in particular of fish species. Thus, for example, in recent years in Lake Sevan and some tributaries the low-value and commercially not important fish species Armenian riffle minnow (*Alburnoides bipunctatus armeniensis*) and Topmouth gudgeon (*Pseudorasbora parva*) have been identified. These species are quickly disseminating in the lake and can have a negative impact on the valuable and endemic ichthyofauna of the lake (white-fish, ishkhani, khramulya, barbel) as they compete for food with the young fish of the lake native species.

In Lake Sevan the cases of fishing of rainbow trout (*Parasalmo mykiss*) have been registered. The species most probably has penetrated into the lake from the fish farms located in the Sevan basin and it is of danger for the lake biodiversity as this predator species can feed on young fish of the native fish species.

1.3.1. Establish Interdepartmental Coordinating Commission on invasive species and to approve the scope of its activities -2016.

1.3.2. Develop Monitoring Implementation Guide on the introduction and distribution of invasive plant and animal species, 2017-2019.

1.3.3. Develop and introduce an action plan preventing distribution and impact of expressive and invasive species, 2016-ongoing.

To address these problems we have developed the project "Investigation of invasive plant and animal species in Armenia January 2016 – December 2018" for which we'll try to find funding sources.

■ **Control and eradication**

■ The main activities which must be implemented in Armenia are described in this chapter. National strategy and National program on invasive alien species have to be elaborated. As first step of this program differentiation of noxious alien species from innocuous and/or useful species and estimation of their impact on biodiversity and natural ecosystems. Next step – elaboration of action plan on invasive and expanding species. This step includes risk assessment, and evaluation of benefits which could be received from using alien introduced species. According Global initiative on invasive species 4 main activities could be implemented:

- prevention
- early detection
- eradication
- control

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- We consider that National program on invasive plant species in Armenia has to be elaborated and regional system of observations, monitoring, data exchange and fast reaction has to be created. For this collaboration very good conditions exist between Armenia and Georgia, probably these two countries could be first two elements of this system, and then other countries of South Caucasian region could be involved in this system.
- Within the framework of the Convention on Biological Diversity, under GEF financing, currently the document "Strategy and State Program of Conservation, Use and reproduction of biological diversity in the Republic of Armenia" which comprises "2016-2020 state action plan on the conservation, use and reproduction of biological diversity of Armenia" was developed and submitted to discussion. As national target 1.3, the following activities are included in the plan:

Thank you for attention!

