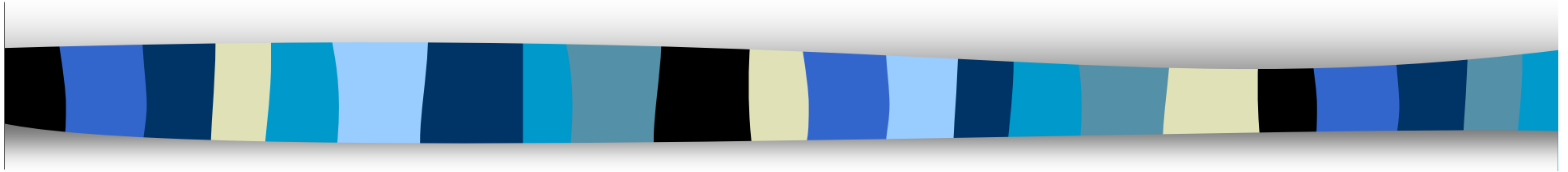


Carpathian List of Invasive Alien Species



Ema Gojdičová, Ján Kadlečík,
Ivana Havranová, and Michal Adamec
State Nature Conservancy of SR



Carthian List of IAS

- BIOREGIO
- to give the picture of the status of alien species in the Carpathian region
- to generate the first list of IAS
- to prepare the starting point for the future studies - trends in IAS, their management, mitigation of impacts, regional/national policy...



Carpathian List of IAS

Methodology and Terminology

- in the project countries use already existing flora and fauna:
- databases
- catalogues
- lists of alien species
- lists of IAS
- or to compile a country list just for purpose of the Carpathian List of IAS.



Carpathian List of IAS

Methodology and Terminology

- general principles:
- respect the borders of the Carpathian region as outlined in the map:
<http://www.carpates.org/cbis/orogs.html>
- for species evaluation use the orographic units (309)
- for names of plant species use names in a country "Checklist" or according to the *Flora of the Carpathians* (Tasenkevich 1998) or *Flora Europaea* (Tutin et al.) – DAISIE (database and names)
- for names of animal species use names from *Fauna Europaea* (www.faunaeur.org).



Carpathian List of IAS

Methodology and Terminology

- for alien species or IAS use definitions agreed by the Conference of the Parties to the CBD for the purpose of the CBD *Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species* (annexed to CBD Decision VI/23)



Carpathian List of IAS

Methodology and Terminology

■ definitions

- 📖 **alien species:** a species, subspecies or lower taxon, introduced outside its natural past or present distribution, includes any part, gametes, seeds, eggs or propagules of such species that might survive and subsequently reproduce
- 📖 **invasive alien species:** an alien species whose introduction and/or spread threaten biological diversity



Carpathian List of IAS

Methodology and Terminology

- definitions

- **introduction:** the movement by human agency, indirect or direct, of an alien species outside of its natural range (past or present). This movement can be either within a country or between countries or areas beyond national jurisdiction
- 📄 **intentional introduction:** the deliberate movement and/or release by human of an alien species outside its natural range
- 📄 **unintentional introduction:** all other introductions which are not intentional



Carpathian List of IAS

Methodology and Terminology

- for listing a particular species the assessment of the species should be done (Pyšek et al. 2004) –
- status of a species - origin status
- residence status
- invasion status



Carpathian List of IAS

Methodology and Terminology

- status of species:
- origin status (native/alien)
- A species is considered as native to a region/country, if the species arrived in the territory before the beginning of the Neolithic era or came to a region/country afterwards through methods entirely independent of human activity (Webb 1985).
- Hybrid between native and alien species is considered as alien species.



Carpathian List of IAS

Methodology and Terminology

- status of species:
- residence status
- time of the arrival of species in the territory:
- *archaeophytes* – introduced before the discovery of America, year 1492 (approx. 1500 A.D.)
- *neophytes* – introduced after that date



Carpathian List of IAS

Methodology and Terminology

- status of species:
- invasive status –
- the degree of species naturalization and possible invasion
- stage in naturalization/invasion process



Carpathian List of IAS Methodology and Terminology

Richardson et al. (2000) scheme:

casual alien plant species:

species that may flourish and reproduce occasionally which do not form- self-replacing populations, which rely on repeated introduction for their persistence



Carpathian List of IAS

Methodology and Terminology

naturalized alien plant species:

species that reproduce consistently and sustain populations over more than one life cycle without direct interventions by humans



Carpathian List of IAS

Methodology and Terminology

invasive alien plant species:

naturalized species that produce reproductive offspring, often in very large numbers, at considerable distances from parent plant and have the potential to spread over a considerable area



Carpathian List of IAS Methodology and Terminology

- **scheme for animal species:**
- *not established alien animal species* -
a species that has not formed self-reproducing populations yet
(but it is found as a casual)

casual alien animal species



Carpathian List of IAS

Methodology and Terminology

- - *rare alien animal species* - a species that has a few sites where it is found in the country/region
- *local alien animal species* – a species that is locally abundant, many individuals in some areas of the country/region
- *naturalized alien animal species*



Carpathian List of IAS

Methodology and Terminology

- *common alien animal species* – a species that has many sites in the country/region
- *very common alien animal species* – a species that has any sites and many individuals
- *invasive alien animal species*



National Lists of IAS in the Carpathian region

- Each project country provides the national list of IAS
- The list should be compiled according to the main systematic groups:
 - **Vascular plants**
 - **Non-vascular plants**



National Lists of IAS in the Carpathian region

- **Vertebrates:**
 - - Mammals
 - - Birds
 - - Amphibians
 - - Reptiles
 - - Fishes
- **Invertebrates**



National Lists of IAS in the Carpathian region

- Listed species should be supported by the fact sheet/database/distribution map (GIS layer) with basic information:
- 1. *Name of the species*:
 - a) scientific (Latin)
 - b) common name (English)
 - c) common name (national)
 - d) synonyms
- Higher taxon – optional



National Lists of IAS in the Carpathian region

- *2. Introduction:*

- a) year of introduction in to the country (if known)
- b) mean of introduction (if known)

- *3. Ecology/Habitats*

Identify main types of habitats preferably occupied by the species within the country.

For habitats preferences use IUCN Habitats Classification Scheme.



National Lists of IAS in the Carpathian region

- 4. *Distribution*

Distribution map using orographical units of the country or points within the units.

- 5. *Impacts/Problems*

- focus on impacts on biodiversity
- effects on human health or economy – optional



National Lists of IAS in the Carpathian region

- 6. *Mitigation of impacts*
Describe the main actions/measures taken to mitigate the impacts of the species.
- 7. *Additional information*
Any relevant and useful information.
- 8. *References*



Carpathian List of IAS

- the national lists of IAS provided
- table summarizing the data will be compiled and completed
- expert team will evaluate each listed species as a candidate species for the Carpathian List of IAS



Carpathian List of IAS

- criteria for listing a candidate species:
- number of countries/orographical units
- area occupied by the species
- impacts on biodiversity
(human health/economy -optional)



Carpathian List of IAS

- *Example of evaluation:*
- If the evaluated species occurs in four from seven project countries and/or is present in more than 150 orographical units (from 309 units) and covers/threatens more than one third of the area of the Carpathian region, the candidate species should be included into the Carpathian List of IAS.



Carpathian List of IAS

- Final list:
- just scientific (and country common names) names of listed species in main (agreed) taxonomic groups

Carpathian List of IAS

