



# ESTABLISHMENT OF THE NATIONAL MONITORING SYSTEM FOR INVASIVE ALIEN SPECIES (KK.06.5.1.01.0001)

Tanja Mihinjač, Petra Kutleša, Ana Ješovnik, Sandra Slivar, Martina Cigrovski Mustafić, Tibor Marić, Igor Boršić  
Ministry of Economy and Sustainable Development, Institute for Environment and Nature  
tanja.mihinjac@mingor.hr; petra.kutlesa@mingor.hr; ana.jesovnik@mingor.hr; sandra.slivar@mingor.hr; martina.cigrovski.mustafic@mingor.hr; tibor.maric@mingor.hr; igor.borsic@mingor.hr

Invasive alien species are one of the greatest threats to biodiversity. In order to mitigate their negative impact, prevent further spread, and to manage them effectively, the data on their current distribution in Croatia and a comprehensive national database is essential. For that reason, the Institute for Environment and Nature of the Ministry of Economy and Sustainable Development is conducting a project “Establishment of the National Monitoring System for Invasive Alien Species (IAS)”. This project is a part of EU’s Operational Programme Competitiveness and Cohesion 2014 – 2020 (OPCC), specific goal 6iii1 - "Improved knowledge of the biodiversity status as a baseline for its effective monitoring and management", implemented from 2017 to 2020.

Total value: 15,221,322.96 HRK (~ 2.03 mil €)

EU co-financing: 85 %

Project beneficiary: Ministry of Economy and Sustainable Development, Institute for Environment and Nature

Duration: April 10<sup>th</sup> 2017 – December 31<sup>st</sup> 2020 (44 months) + extension until June 2021

## PROJECT ACTIVITIES

### Collecting data on distribution of alien species and IAS in Croatia (mapping alien species and IAS)

- **Freshwater macrozoobentos:**  
28 species – literature data collection + field mapping (110 grid cells 10×10 km)
- **Freshwater crayfish:**  
3(5) species – literature data collection + field mapping (25 grid cells 10×10 km)
- **Freshwater fishes**  
~25 species – literature data collection + field mapping (134 grid cells 10×10 km)
- **Amphibians and reptiles**  
2(6) species – literature data collection + field mapping (100 grid cells 10×10 km)
- **Mammals associated with freshwater ecosystems**  
2(3) species – literature data collection + field mapping (85 grid cells 10×10 km)
- **Mammals associated with terrestrial ecosystems**  
4(10) species – literature data collection + field mapping (82 grid cells 10×10 km)
- **Vascular plants**  
84 species – literature data collection + field mapping (356 grid cells 10×10 km)
- **Marine species**  
106 species – literature data collection
- **Pest species in forestry**  
72 species in forestry – literature data collection  
37 species in agriculture – literature data collection

### Establishing monitoring system for IAS of Union concern

- based on the collected field data
- development, field testing, and fine-tuning of monitoring programs
- purpose: tracking changes in populations of priority IAS (species of Union concern)
- prepared monitoring programmes for *Pacifastacus leniusculus*, *Faxonius limosus*, *Procambarus virginalis*, *Pseudorasbora parva*, *Lepomis gibbosus*, *Lithobates catesbeianus*, *Trachemys scripta*, *Myocastor coypus*, *Ondatra zibethicus*, *Nycturetes procyonoides*, *Herpestes javanicus auropunctatus*, *Ludwigia peploides* (Kunth) P. H. Raven and *Ailanthus altissima* (Mill.) Swingle

### Creating a information system of alien species and IAS

- part of the Croatian Nature Protection Information System
- webpage [www.invazivnevrste.hr](http://www.invazivnevrste.hr)
- catalog of alien species including alien species present in the nature of Croatia, species in commercial use (pet trade, horticulture), species from the Union list (photographs, descriptions, biological characteristic, distribution, invasiveness, etc.)
- interactive maps with species records
- users: the public, nature protection sector, researchers, other sectors that work with alien species and IAS (border control, etc.)

### Analysing pathways of introduction and spread of alien species and IAS

- analysis and prioritization of pathways of introduction and spread for priority alien species (242 species - including species from the Union List; Table 1)
- determination of pathways that require priority action

Table 1. Number of priority alien and invasive alien species per actual and potential pathway of introduction and spread

Category (according to CBD classification)	Number of species: actual pathway of introduction	Number of species: potential pathway of introduction and spread	Number of species: actual + potential pathway
Release in Nature (1)	22	33	55
Escape from confinement (2)	67	90	157
Transport – Contaminant (3)	42	130	172
Transport- Stowaway (4)	45	147	192
Corridors (5)	6	52	58
Unaided (6)	52	170	222

### Mobile application „Invazivne vrste u Hrvatskoj” for collecting data on alien species and IAS

- used source code from IAS Europe EASIN app
- record and report observations of alien species in the field
- citizen science – development of a network of amateur researchers who will report field records of alien species and IAS

