
 <p>ICELAND LIECHTENSTEIN NORWAY</p>	<p>FINANCIAL MECHANISM OF THE EUROPEAN ECONOMIC AREA 2009-2014</p> <p>Programme BG03 Biodiversity and Ecosystem Services</p> <p>East and South European Network for Invasive Alien Species – A tool to support the management of alien species in Bulgaria ESENIAS-TOOLS, Д-33-51/30.06.2015</p>	
---	--	---

**ESENIAS-TOOLS WG3 Meeting: Data collection, analysis,
standardisation and harmonisation on alien freshwater species**

25-27 November 2015, Zagreb, Croatia

Venue: Croatian Agency for the Environment and Nature (CAEN)

- Sonja Desnica, Petra Kutleša and Sandra Slivar
- **WG3 leader** dr. sc. Aljoša Duplić

The meeting was attended by Guler Ekmecki (Hacettepe University Ankara, Faculty of Science - Department of Biology), Momir Paunović (University of Belgrade, Institute for Biological Research “Sinisa Stankovic”), Tamara Jurca (Department of Biology and Ecology, Faculty of Sciences), Mina Asenova (Executive Environment Agency, Water Monitoring Department), Teodora Trichkova (Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences), Cristina Preda (Ovidius University of Constanta), Meta Povž (The Academic and Research Network of Slovenia (ARNES)), Martina Jaklič (National Institute of Biology, Department of Freshwater and Terrestrial Ecosystems Research), Andreja Slameršek (Native Fish Society Slovenia - DPRS), Guiseppe Brundu (University of Sassari, Departement of Agriculture), Sandra Hudina (University of Zagreb, Faculty of Science - Department of Biology), Marina Piria (University of Zagreb, Faculty of Agriculture - Department of Fisheries, Beekeeping, Game Management and Special Zoology), Ivana Maguire (University of Zagreb, Faculty of Science - Department of Biology), Jasna Lajtner (University of Zagreb, Faculty of Science - Department of Biology) and Krešimir Žganec (University of Zadar).

Firstly, the subject of the workshop and its goals were announced followed by the short presentation on the ESENIAS-TOOLS project aim and objectives prepared by dr. sc. Teodora Trichkova. Afterwards country reports were presented:

Here are short summaries of countries reports:

Country report Bulgaria - Bulgarian Preliminary list of alien freshwater species includes 37 taxa (Diatoms, Bryozoa, Cnidarians, Oligochaeta, Decapods, Gastropods, Bivalves, Actynopterigyii). There is 10 species in Preliminary list of translocated species, while current suggestion for Watch list includes 10 species.

Country report Croatia - In Croatia there is overall 40 freshwater alien species. Most of them are fishes (23 species), follows Malacostraca (12), Bivalves (4) and Gastropod (1). There is 13 more fish species on the list of translocated species.

Country report Italy – There is already 112 established alien animal species in Italian freshwaters. Introductions have significantly increased after 1960s (Italian economic boom). Asia and North America are main donor area. Inventory of non-native flora of Italy was done in 2009 and negative impact is reported to be exerted by 203 species, most of which are agricultural weeds (CELESTI-GRAPOW, L. 2010).

Country report Slovenia - In the Adriatic basin, among 49 fish species only 22 species are indigenous. Among 27 alien fish species 14 have been introduced and 13 are translocated from the Danube basin. In the Danube basin among 73 fish species only 57 are indigenous, 18 have been introduced and four translocated from the Adriatic drainage basin. Considering other alien freshwater species, there is altogether 4 Crustaceans, 1 Fungi and 2 Bivalves. The most devastating introductions in Slovenia are the introductions in the isolated ecosystems like Alpine lakes with endemic water fauna (Crustacean, newts).

Country report Romania – In Romania 40 alien freshwater species has been updated and validated. 25 of them are fishes, 5 are Gastropods, 4 Bivalves, 2 Crustaceans, 2 Trematoda, 1 Oligochaeta and 1 Entoprocta. Most of them have been introduces from North America and Eastern Asia.

Country report Turkey - In Turkey there is already 74 introduced freshwater fish species which threat endemic fish species and overall biodiversity, which is the richest in the Mediterranean region. Also, Asian and European part of Turkey should be included in ESENIAS region, because the majority of recorded alien fish species are present in both parts.

ESENIAS BOOK - The chapters are predefined.

1. Methodology
 2. Priority list
 3. Pathways of introduction
 4. Trends
 5. Impact
- + 10 Factsheets from regional Priority List

(In the web site WG3 Group can put as many factsheets as they want.)

To prioritize invasive alien freshwater species three Risk Assessments were presented at the end of the first day of workshop: Teodora Trichkova has presented minimum criteria from EU Regulation, Cristina Preda has explained the Unified Classification of Alien Species Based on the Magnitude of their Environmental Impacts (Blackburn et al. 2014) and Marina Piria has introduced Fish Invasiveness Screening Kit (FISK) which was already implemented in Slovenia and Croatia. On 26th November Momir Paunović has also presented Biological invasion impact / biopollution assessment system which was used for IAS prioritization in Danube basin . It could be good basis for further work on species prioritization process in the region. <http://www.corpi.ku.lt/databases/index.php/binpas/>

Discussion on SPECIES DATA FORM (species taxonomy, species status, source of data, level of confidence of data) was during both working days (25th and 26th November 2015)

Here are some most important issues regarding **SPECIES DATA FORM**:

1. Taxonomy will be implemented from EASIN.
2. Year of first report and year of first introduction will be obligatory.
3. **Species status “questionable”**: What does questionable categorization of species status really mean? WG3 participants think that cryptogenic status could cover such a case. Definition of questionable is needed to clarify it.
4. **Species status “translocated”**: For freshwater alien species category translocated should be added to species status.
5. Also, one more category for translocated species is needed – **for which basin is species native and for which basin is species translocated**.
6. What will be **minimum criteria to put some alien freshwater species on priority list**? – List of species of EU concern should be one of the criteria. The question has arisen: As priority list will be created to indicate most invasive alien species of the ESENIAS region and serve as a platform for IAS

management at the regional scale, should some translocated species also be on this list or could there be one regional priority list of alien species and second one of translocated species?

7. **Source of data:** To use only official published data or all available data? WG3 participants have agreed to use all available data, but always put the origin of it (to know the reliability of data).
8. **Species frequency:** Why the species data form does not include quantitative data such as species frequency (range (%) or scale (1-3)) with related level of confidence of this data? This data could be very important for IAS management.

Explanation: There was already discussion about species abundance at the ESENIAS meeting in Sofia and abundance was excluded from species data form. Could it be reconsidered once again? It is true that species abundance would be hard to express at regional scale as it is related to populations. On the other hand, **species frequency could be expressed on the regional scale and could be part of species data form.**

Some possible methods for expressing frequencies have been suggested as they are needed for objectiveness:

Marina Piria - W=widespread/R=restricted/M=moderate/U-UNKNOWN

Momir Paunović - Rare (%), common (%) and frequent (%)

Risk Assessment from BINPAS:

<http://www.corpi.ku.lt/databases/index.php/binpas/>

9. **Ponto Caspian species:** Many Ponto Caspian species are invasive in ESENIAS region, but native in Romania? There is disagreement to putting some Ponto Caspian species such as *Dreissena* on regional priority list. In national alien lists there will not be any problems because this will simply be distinguished in species status, but this regional list is problematic.
10. ***Aedes pibunctatus*** – Should it be consider as part of alien terrestrial invertebrates WG or alien freshwater species WG? Suggestion is to put it in both WG as species is present in both environments.
11. **Habitat type:** Why do not include habitat types from Natura 2000 to species data form?
12. **Pathways:** Should the reference for each pathway be cited or only for two main pathways? EASIN lists all documented pathways.

Pathway of first introduction – interesting for history, but most usual pathway is also important. It is very useful for trade management (you can make bans for trade, or regulate it more strictly, or put some barriers).

WG3 will try to divide first (primary) introduction from secondary one (all other introductions). Categories and subcategories are from CBD.

<https://www.cbd.int/doc/meetings/sbstta/sbstta-18/official/sbstta-18-09-add1-en.pdf>

There was suggestion to organize pathway section like this:

1. Volunteer /accidental/ unknown
2. 6 categories: Release in nature/escape from confinement/transport – contaminant/transport – stowaway/ corridor/unaided/unknown
3. Subcategories (also from CBD)

2 nd DAY Sessions

Preliminary List of priority species for the ESENIAS countries was created according available data from Turkey, Greece and Croatia and suggestions from the workshop participants. Preliminary list of priority species includes altogether 43 species (21 fishes, 13 Crustaceans, 6 Mollusca, 1 Diatomea, 1 Bryozoa and 1 Crayfish plague). On the watch list there is 29 species (19 fishes, 6 Crustaceans, 2 Mollusca and 1 Polychaeta).

* Preliminary List and Watch List for the ESENIAS countries, as agreed in the WG3 meeting is attached as Excel table.

Future networking and cooperation:

Dr. sc. Marina Piria has presented the international conference “Freshwater Invasive – Networking for Strategy (FINS-II)”, which will be held in Zagreb from 11th to 14th July 2016. Organizers are University of Zagreb, Faculty of Agriculture (UNIZG-AFZ) and Aquaculture Advisory Commission (EIFAAC). Key topics are related to freshwater invasive animal and plant species, including aquatic pathogens (eg. bacteria, viruses, fungi and parasites). <http://finsconference.eu/>

Sandra Hudina has presented signal crayfish (*Pacifastacus leniusculus*) presence, distributional range and impact on biodiversity in the Korana River as introduction to field trip to the Plitvice Lakes National Park and to the Korana River on 27th November 2015.

3rd DAY Field Trip to the Plitvice Lakes National Park and to the Korana River

The last day of the workshop the field trip to the Plitvice Lakes National Park was organized. Participants were acquainted with problem of translocated and alien freshwater fish species present in the Park such as *Leuciscus cephalus*, *Scardinius erythrophthalmus*, *Esox Lucius* and *Oncorhynchus mykiss*. Eutrophication, another anthropogenic pressure in the Park, also promotes alien fish invasions and suppresses native species in this karstic ecosystem. On the return to Zagreb there was one more stop on the Korana River where signal crayfish (*Pacifastacus leniusculus*) is present from 2011. It is still unclear how the species got into the Korana River but it is presumed to be intentionally released as in Croatia species is recorded only from Drava River which is not connected with Korana River tributary. The local NGO "Sedra" has presented their former work on signal crayfish eradication programme.

The general conclusions of the WG3 meeting are summarized as follows:

- **Aljoša Duplić will circulate the preliminary species lists to the countries by 20th December 2015.**
- **Each country list will be the responsibility of the corresponding country.**
- **Each county representative should check priority list and watch list during January (There will be four week time to check the list.)**
- **The priority species list as discussed in this meeting will be further distributed among partners for input. This list should be finalized, and then GIS data will be requested from each country. Additionally, species included in this list will be considered as priority species for Risk Assessment.**
- **Risk Assessment (RA) will be done for all species from priority list. For fishes FISK will be used, while for crayfishes existing RA from the European Union will be used. For macroinvertebrates, data from Elena Tricarico could also be used. At least best expert judgment could be done for species for which there is no any appropriate RA method or the data are insufficient.**