Project: East and South European Network for Invasive Alien Species – a tool to support the management of alien species in Bulgaria (ESENIAS-TOOLS)

ESENIAS-TOOLS WG5 MEETING: DATA COLLECTION, ANALYSIS, STANDARDISATION AND HARMONISATION ON ALIEN TERRESTRIAL INVERTEBRATE SPECIES

29-30 October, 2015

Meeting venue: Sofia, Bulgaria
Leventis Meeting room of the National Museum of Natural History
1 Tsar Osvoboditel Blvd., 1000 Sofia, Bulgaria

MEETING REPORT

Participants: 27 experts from Bulgaria, Greece, Croatia, Serbia, Romania, Turkey, Italy, Kosovo, FYR Macedonia, and Montenegro.

Objectives of the WG5 meeting:

- To establish a list of collaborators who will be involved in the tasks of WG5
- To define the harmonized terminology and methods for data collection and validation
- To define the protocol for prioritisation of alien species
- To define the approach for developing of ESENIAS IAS list and validation of presented draft version
- To establish a road map for 2016 (Time table, reporting, dissemination of results)

AGENDA

29 October, 2015

09:00 – 09:30 WG5 working plan, expected results, issues and challenges, country representatives (Rumen Tomov)
09:30 – 10:30 WG5 standardisation and harmonisation of methods - terminology, data collection and validation (Rumen Tomov)
10:30 – 11:00 **Coffee**
11:00 – 12:30 WG5 standardisation and harmonisation of methods - discussion (Rumen Tomov)
12:30 – 14:00 **Lunch break and coffee**
14:00 – 15:30 Preparation of list of alien species - discussion and validation of draft version of the ESENIAS list (Milka Glavendekić)

15:30 – 16:00 **Coffee**

16:00 – 16:30 Review of protocols and approaches for prioritisation of alien species (Rumen Tomov, Cristina Preda)
16:30 - 17:30 Prioritisation of alien species - discussion (Rumen Tomov)

30 October, 2015
09:00 – 10:30 Prioritisation of alien species, priority species - discussion **(Rumen Tomov)**
10:30 – 11:00 **Coffee**
11:00 – 12:30 Time-table, reporting, dissemination of results (Rumen Tomov)
12:30 – 13:00 Wrap up and closure (Rumen Tomov)
13:00 – 14:00 **Lunch break and coffee**
14:00 – 17:00 Field trip (testing of sampling methods in the field)

Each session started with a short presentation followed by discussion. The following topics were discussed:

- Working plan, expected results, issues and challenges, country representatives
- Standartisation and harmonization of methods (terminology, data collection and validation)
- Preparation of list of alien species (discussion and validation of draft version of the ESENIAS list)
- Prioritisation of alien species
- Time-table, reporting, dissemination of results

1. Working plan, expected results, issues and challenges, country representatives

After an introduction by Rumen Tomov, working group leader, the first session was devoted to presentations so as to give an overwiew of the tasks and expected results of the WG5

Task 5.1: Standartisation and harmonization of methods
Task 5.2: Data collection and validation based on literature review and field survey on alien terrestrial invertebrate species (for Bulgaria - including species from Annex 2)
Task 5.3: Preparation of list of alien species (filled data forms)
Task 5.4: Prioritisation of species and preparation of data fact sheets for priority species

The following topics were discussed:

- Common protocols for collecting data in the field/ sampling protocols
- Common protocols for collecting data from literature sources, project reports, other databases, collections, etc.
- Data collected and validated within the group
- List of alien species for the ESENIAS region
- Methodology and criteria for prioritization – common for all groups and/or specific?
- List of priority species for the region – for which we will prepare fact sheets and maps
- List of experts/ authors of the fact sheets

- Template for the fact sheets – common for all groups and/or specific?
- Fact sheets for priority species

Several months prior to the meeting, a request was sent to all partners to appoint experts on invertebrate taxa responsible for the validation of data collected.
During the first session a list with potential participants in the WG5 was discussed. Except Greece all countries included in the project appointed a representative for the WG5 (Table 1). Potential participants from Kosovo, Bosna and Hercegovina and Albania were proposed. Dr. Sanja Radonjić from Montenegro attended the meeting and was included in the invertebrate expert team. The possible involvement of experts in other taxonomic groups was discussed. Prof. Vlada Peneva form IBEI BAS was included as a nematologist. It was decided each country representative to contact experts on different taxonomic groups and propose them involvement in future regional publications.

Table 1. Experts included in the WG5 team

Country	**Institution**	**Expert**
Bulgaria	IBER-BAS	Georgi Georgiev
Bulgaria	IBER-BAS	Katya Trencheva
Bulgaria	IBER-BAS	Rumen Tomov
Bulgaria	IBER-BAS	Snejana Grozeva
Bulgaria	IBER-BAS	Vlada Peneva
Bulgaria	National Museum of Natural History, BAS	Nikolai Simov
Romania	"Ovidius" University of Constanta	Cristina Preda
Serbia	University of Belgrade, Faculty of Forestry	Milka Glavendekić
Croatia	Croatian Agency for Environment and Nature	Petra Kutleša
Italy	University of Florence	Alberto Inghilesi
R. Macedonia	Ss. Cyril and Methodius University in Skopje, Faculty of Agricultural Sciences and Food	Stanislava Lazarevska
Turkey	Duzce University	Sevcan Oztemiz
Montenegro	University of Montenegro	Sanja Radonjić
Kosovo	Kosovo Environmental Protection Agency	Qenan Maxhuni

2. Standardisation and harmonisation of methods - terminology, data collection and validation

The second session focused on IAS terminology and methodology for data collection and analysis.

The preliminary data forms (species data form, institution data form, expert data form, project data form, publications data form) were presented for discussion.
It was agreed that:

- The species data form to contain data on taxonomy, origin, year of introduction, first records, frequency of occurrence, pathways of introduction, impact.
- Data factsheets with more detailed information about distribution, population abundance, biological and ecological traits will be prepared for selected priority species.
- GIS maps will be prepared for all priority species, while distribution models will be prepared for selected terrestrial species within CS4.

Key terms related to alien species were presented and discussed: Invasive alien species, Early warning and rapid response system (EWRR), Alert lists (alarm list), Watch list, Black list, Risk analysis. The audience agreed to follow the general CBD-definitions (2000, 2002) and European Environmental Agency definitions.

- **Invasive alien species (IAS)** are those alien species whose introduction and spread outside their native range threatens biological diversity.
- **Early warning system** should encompass elements for identifying potential future IAS not yet present and for prioritising alien species already present according to their impact (Randall *et al.* 2008).
- **Invasive alien species (IAS)** are those alien species whose introduction and spread outside their native range threatens biological diversity.
- **Risk analysis:** the evaluation of the likelihood of entry, establishment or spread of an alien species in a given territory, and of the associated potential biological and economic consequences, taking into account possible management options that could prevent spread or impacts.
  Risk analysis includes risk assessment (process of evaluating biological or other scientific and economic evidence to determine whether an alien species will become invasive) and risk management (evaluation and selection of options to reduce the risk of introduction and spread of an invasive alien species).
- **Alert list (alarm list):** list of alien species not yet present in a territory or present only in a very limited range that pose risks to the invaded area, and for which it is recommended to apply particular surveillance and monitoring efforts in order to enhance prompt response in the case of arrival/expansion.
- **Watch list:** a list of alien species not yet present in a territory — or present only in a limited range — that are considered potentially to pose risks to the invaded area and for which it is recommended to monitor arrival, expansion and impacts, and/or application of prevention measures.
- **Black list:** a list of alien species that have been shown through risk assessment to pose risks to the environment, economy or human wellbeing.
- A species is considered as **established** as soon as it is able to reproduce consistently in the wild and sustain populations over several life-cycles through sexual or asexual modes without direct intervention by man (self-perpetuating populations)

http://ias.biodiversity.be/documents/ISEIA_protocol.pdf. This approach is based on the EUNIS Habitat Classification System http://eunis.eea.europa.eu/.

3. Preparation of a list of alien species - discussion on the draft version of the ESENIAS list

The third session was devoted to the list of alien invertebrate species in the ESENIAS region. The discussion was conducted on the basis of a preliminary list, which had been circulated in advance to the project partners. Each partner was asked to verify/ confirm data.
It was pointed out that the list of alien species should be **validated list** for the region and each species should be categorised according to its status. All information provided should be supported by literature data. The inclusion of unpublished personal observations should be avoided). It is necessary to collect all kind of literature sources on alien invertebrates in each country.

As a result of discussion the first draft of the list was considerably improved. The participants agreed to review the list and fill the gaps with the help of country experts. It was decided that the data will be collected only from published sources, existing databases, available data sets prepared by previous projects and activities.

4. Prioritisation of alien species

During the fourth session various approaches for prioritisation of alien species were discussed. The project tasks were presented to the participants:

- For the prioritisation of alien species appropriate ranking criteria and methods should be selected for each group. The selection process for priority species will be based on risk scoping procedure and expert opinion
- In the project proposal it was stated that "*for prevention and management purposes, priorities should be given to those alien species that cause harm or have the potential to harm biological diversity and/or ecosystem services, human health and/or socio-economic values. Priority could also be given to IAS for which there is a real possibility of measures of halting their introduction and spread and negative impacts. In addition to negative impact, potential positive effects/benefits should be considered*".

The following approaches for prioritisation were proposed for discussion:

- To follow the approach according to REGULATION (EU) No 1143/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species.
- To follow Framework and guidelines for implementing the proposed IUCN Environmental Impact Classification for Alien Taxa (EICAT) and United Classification of Alien Species Based on Magnitude of their Environmental Impacts (Blackburn et al. 2014, Hawkins et al. 2015) – vertebrates species
- To develop regional protocol for prioritization of Alien species on the base of criteria used in the following protocols: GB NAPA, Harmonia+ (Belgium), GABLIS (Austria/Germany), ISEIA (Belgium), Norwegian GISS (Nentwig and coll.), GISS – IUCN (Blackburn et al. 2014), EFSA EIA, EPPO Env. Impact (Kenis et al 2012)
- Expert judgment based on literature review and available European and global IAS databases (EEA, 2007; DAISIE: Vilà *et al.*, 2009; Global Invasive Species Database,

managed by the Invasive Specialist Species Group - ISSG: www.issg.org) – marine species, plant species

A review of protocols and approaches for prioritisation of alien species was made by Rumen Tomov and Cristina Preda.

The approach of **Kelly *et al.* 2013** was presented and used as a basis for the discussion.
Risk assessment of invasive species is the evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences; or the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages or feedstuffs.
The purpose of the risk assessment process is to identify risks and inform management decisions. It is not intended to inform a cost/benefit analysis associated with the introduction of any non-native species.

- **prioritisation risk assessment**
- **more detailed assessment**

The first is **the prioritisation risk assessment**. This assessment is a key to understanding the relative risk associated with a larger array of species. This assessment is required primarily for prioritisation and informing decisions that do not have an impact on trade. The prioritisation risk assessment was carried out for 377 non-native species recorded in Ireland and 342 non-native species **not known to present in Ireland**. These species were assessed, scored and ranked into impact categories of high, medium and low.
The **second assessment is a more detailed assessment** of the risks and uncertainties surrounding a particular species, group of species or pathway of concern. The purpose of this risk assessment is to gather additional information on a particular species of concern when there is an identified need to do so. This will be used, where required, for the purpose of supporting any trade restrictions. It is important to note that undertaking a detailed risk assessment will not necessarily result in trade restrictions.
Recorded species data sources
Not all non-native species present in Ireland were included in the database and subject to a risk assessment. Additionally, some species that are not currently recorded from the wild but are known to be in trade, either in Ireland or Northern Ireland, were included in the risk assessment under the recorded species.
This approach recognises that it is not always possible to define at what state in the invasion process a species is at particularly in the absence of baseline datasets or surveys to assess individual species populations/viability.

Another approach, which was presented was the **Quick screening – RISK ASSEMENT developed by the** European and Mediterranean Plant Protection Organization - PM 5/5(1) Guidelines on Pest Risk Analysis

- Decision-Support Scheme for an Express Pest Risk Analysis
- Specific scope: This standard provides a simplified scheme for the rapid production of pest risk analyses.

The following ERA protocols were presented as well:

- GB NAPA
- Harmonia+ (Belgium)
- GABLIS (Austria/Germany)

- ISEIA (Belgium)
- Norwegian
- GISS (Nentwig *et al.* 2010)
- GISS – IUCN (Blackburn *et al.* 2014)
- EFSA EIA
- EPPO Env Impact (Kenis *et al.* 2012)

The presented impact assessment schemes were discussed. It was decided **a common Quick screening regional protocol** to be developed. After developing the protocol the WG5 experts should decide how and how many species to rank (having in mind that the project covers all organisms) – top 100 worst organisms or top 10 – 20 worst invertebrates in the region.

It was agreed that the field survey will be used to collect data for prioritised species, for which data sheets will be prepared.

5. Time-table, reporting, dissemination of results

A presentation entitled ”Scholarly publishing becomes part of the research process - From open access to open science” was presented by Lyubomir Penev, managing director of the Pensoft Publisher. An opportunity for Next-Gen publishing - to publish in machine readable format that facilitate the open data export and reuse from publications was demonstrated. The possibilities of publishing the WG5 outputs in the Pensoft Open Access Journals were discussed.

The WG5 participants agreed on the following working plan:

- IAS invertebrate experts from Greece, Albania, Bosna and Hercegovina and Kosovo to be invited to join the WG5 team - early February, 2016
- Second draft IAS list to be resent to the country representatives for validation - early February, 2016
- IAS list validated – June, 2016
- Finalisation and distribution of draft version of prioritisation protocol - early March, 2016
- Prioritisation of alien invertebrate species and creating a list of the worst invertebrates for the region – June, 2016
- data sheets for prioritised species created – November, 2016.