



Interlink

International Cooperation in Environment

ALARM - The first research initiative with the critical mass needed to deal with combined impacts and their consequences

Geographic area: Europe, China, South Africa, Southern and Central America

Period: February 2004 – January 2009

Environmental issues addressed: Based on a better understanding of terrestrial and freshwater biodiversity and ecosystem functioning ALARM develops and tests methods and protocols for the assessment of large-scale environmental risks in order to minimize negative direct and indirect human impacts. In particular, risks arising from climate change, environmental chemicals, biological invasions and pollinator loss in the context of current and future European land use patterns are assessed.

FP7 R&D Axis: Area 6.2.1.4 Biodiversity Sub-Activity 6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity Activity 6.2 Sustainable management of resources

Website: <http://www.alarmproject.net>

Cooperating countries: 36 countries are represented in the project

Partners:

Centre for Environmental Research Leipzig-Halle (UFZ) (Coordinator)	Research organization	Germany
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Abstract

The research group of the Institute of Zoology of the National Academy of Sciences of Belarus headed by Dr. Vitaly Semenchenko started investigation of the biological invasions in 2005 in the frame of the national program "Ecological safety" supported by the Ministry of Environment of Belarus. IZ-NASB was invited to join ALARM consortium after the report at the II International conference on biological invasions in Barok, Yaroslavl' region, Russia and finally became its partner as a result of FP6-2006-TTC-TU Call. IZ-NASB enlarged the research potential of the ALARM "water" group on invasive species and contributed to the assessment of the environmental risks of the biological invasions.

Context and objectives

The Alarm objectives are as follows:



- ✓ To develop an integrated large scale risk assessment for biodiversity as well as terrestrial and freshwater ecosystems as a part of environmental risk assessment.
- ✓ To focus on risks consequent on climate change, environmental chemicals, rates and extent of loss of pollinators and biological invasions.
- ✓ To establish socio-economic risk indicators related to the drivers of biodiversity pressures as a tool to support long-term oriented mitigating policies and to monitor their implementation.
- ✓ To develop, for the first time, a research network that is consistently thinking, interacting, and investigating on a continental scale across different environmental problems (impacts) and across different spatial and temporal scales of ecosystem diversity changes.
- ✓ To provide a contribution to objective based politics, to policy integration and to derive outcome-oriented policy measures in the field of biodiversity preservation by contributing to the integrated assessment of socio-economic drivers affecting biodiversity and integrated, long-term oriented means to mitigate them. Because of the project complexity several separate research groups have been created within it.

Belarusian team joined the invasive species (IS) group in 2007 when the theoretical base of invasions within the ALARM has been developed already and the group was entrusted with verifying the theory. It was Belarusian team which gave 60% of the data needed to solve this problem. Thanks to the fact that the territory of Belarus was considerably smaller than of the neighbour Ukraine and Russia they were fortunate enough to cover all the country in 2007 during the 20-days expedition along the Pripjat river. The data received there made the base for 2 publications. The problem of invasive species influence on local flora and fauna is of great importance for Belarus which is a transit country. At the moment there are over 30 invasive species of animals in Belarus from Northern and Central America, New Zealand and China. This number grows up rapidly: that is why the results of ALARM project in assessing the risks of biological invasions are of great importance: we need to plan economic losses in Belarus. Thanks to collaboration within ALARM during 1,5 years the national group considerably moved ahead in investigating this problem. It could take many years if we made that job alone.

When gathering high level professionals having different views on the same problem, a balance of interests is essential for the success of the project.

One factor can be mentioned both as a success one and factor of difficulties – having a large number of high level professionals in one team. From one point of view, it gives a huge collection of knowledge and experience that can speed up considerably the decision of the problem. On the other hand, having several people with different views on the same problem and personal ambitions can reduce the positive effect of INCO and needs a special attention to keep a balance of interests. For Belarusian team, IZ-NASB the success factors as scientific foreground and experience of INCO could be mentioned.

Joint work speeds up getting new knowledge many times

The main benefits for the Belarusian team resulted from cooperation within ALARM are as follows: 1) The problem of invasive species influence on local flora and fauna is of great importance for Belarus which is a



transit country. At the moment there are over 30 invasive species of animals in Belarus from Northern and Central America, New Zealand and China. This number grows up rapidly. Nevertheless research in the area of biological invasions is supported in Belarus on the national level it could take many years to achieve such the results as ALARM gave if IZ-NASB made that job alone. The results of ALARM project in assessing the risks of biological invasions will be used in the country: they are needed to plan economic losses in Belarus. 2) When Belarusian group entered the project in 2007 the theoretical base of invasions within the ALARM has been developed already and the group was entrusted with verifying the theory. It was Belarusian team which gave 60% of the data needed to solve this problem. Thanks to the fact that the territory of Belarus was considerably smaller than of the neighbour Ukraine and Russia the team was fortunate enough to cover all the country in 2007 during the 20-days expedition along the Pripjat River. The data received there made the base for 2 publications. 3) Networking and fruitful contacts with ALARM partners, especially within the “water” group on invasive species that made the base for future joint projects.

Key data

According to the World Bank, the loss from the biological invasions reaches 120 bln.\$ in the US, 80 bln \$ - in India, 60 bln \$ - in Brazil. In Belarus the assessed value of such wastes is tens of millions of \$. Invasive species is the second threat for indigenous flora and fauna next to the human impacts. Project cost is 16,7 mln Euros with 12 mln Euros EC contribution.